The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad*]

No. 2314.—VOL. XLIX. LONDON, SATURDAY, DECEMBER 27, 1879. [WITH SUPPLEMENT.] {PRICE ..... SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, No. 1, FINCH LANE, CORNHILL, LONDON, E.C. ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

25 Assheton, 20s.	30 Glyn United.	200 Pestarena.
40 Almada, 7s.	25 Glenroy, 20s. 6d.	100 Parys Corporat., 37s
35 Clementina.	25 Herodsfoot, £2 18s 9d.	20 Richmond, £10¼.
15 Devon Consols, £6¾.	100 Javali, 7s.	30 South Darren, £3 6 3
25 East Caradon.	50 Killifreth, 12s. 6d.	25 Tankerville, £6.
25 East Van, £2 6s. 3d.	25 Leadhills, £4 12s. 6d.	10 Van.
50 East Roman Gravels.	10 Mineral Corporation.	25 West Assheton, £3 13 9
25 Eberhardt.	50 No. D'Eresby Mount,	25 W. Chiverton.
35 Flagstaff, 30s.	50 Pandora, 13s.	25 Wheal Crebor, £7¼.
	15 Panulcillo, £5.	

BUSINESS in all TIN Shares.

"*" SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON. ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, 44, THREADNEEDLE STREET, LONDON, E.C. ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS.

TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

30 Assheton, 20s. 6d.	10 East Chiverton.	15 Richmond, £10.
70 Almada, 7s. 3d.	50 East Roman Gravels.	100 Rossa Grande.
25 Bwlch United.	25 Frontino, £2 16s. 3d.	25 Ruby, £4½.
50 Blue Tent, £2.	50 Flagstaff, 32s. 6d.	20 Roman Grav., £12½.
100 Bodidris.	10 Great Laxey, £18½.	50 South Crebor.
35 Colorado, 32s.	15 Great Holway.	25 South Darren, £3½.
50 Chontales.	50 Glenroy, 22s. 6d.	10 South Frances, £10⅞.
3 Carn Brea, £61.	40 Hingston.	100 Tolima B, 18s.
50 Canada Gold.	20 Herodsfoot, £3.	15 Tankerville, £6.
5 Cape Copper, £34	100 Javali.	70 Tamar Silver-Lead
25 Derwent.	30 Leadhills, £4¾.	5 Van, £23¾.
75 Don Pedro, 8s. 9d.	25 Marke Valley, 34s.	40 W. Assheton, £3½.
2 Dolcoath, £55½.	10 Mellanear, £4¾.	5 Wheal Peevor, £21½.
15 East Lovell.	50 New Quebrada, £3 13	20 Wheal Grenville.
25 Eberhardt, £3.	100 Nouveau Monde, 21s.	30 West Pateley Bridge, £2½.
50 East Crebor.	40 Parys Copper, 38s.	150 Yorke Penin., (pref.) 20s.
30 East Caradon, £2 19 6	30 Pateley Bridge, 16s. 6	
20 East Van, £2½.	20 Panulcillo, £4 16s. 3d.	
	150 Pestarena, 5s. 9d.	

IMPORTANT TO INVESTORS.

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SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to—

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Llanrwst Ordinary...	£ ¾ ... £1¼	Tamar	£1¾ ... £1½
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MR. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.

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Can SELL the following SHARES at prices annexed:—

20 Blaen Caelan, £3.	25 Herodsfoot, £3 2s. 6d.	100 Rossa Grande, 2s. 9d.
40 Bedford United, 8s. 6	40 Hingston, 11s.	20 Ruby Silver, £4½.
50 Cambrian, £1 18s. 9d.	20 Leadhills, £4 12s. 6d.	25 So. Crebor, £1 6s.
150 Chontales, 7s. 6d.	20 Marke Valley, 28s. 9d	20 So. Darren, £3.
50 Consolidated, 8s. 6d.	10 Minera, £11¼.	50 Tamar Silver-Lead.
20 Colorado, £1⅝.	40 Nouveau Monde, 25s 6	50 Tecoma, 6s. 6d.
15 Devon Consols, £6 5	20 Morfa Du, 13s. 9d.	50 Van United and Glyn, 14s 9d.
50 Don Pedro, 9s.	25 North D'Eresby.	15 W. Assheton, £3¼.
20 East Caradon, £2 16 3	20 Panulcillo, £5.	20 W. Chiverton, £1¾.
20 East Crebor, £1 1s.	20 Pateley Bridge, 18s.	20 W. Pateley Br., £2 2 6
25 East Van, £2¼.	150 Pestarena, 5s. 9d.	10 Wheal Crebor, £7 1 3
20 Eberhardt.	75 Port Phillip, 9s. 9d.	
	10 Roman Gravels, £12¼	

BWLCH UNITED MINES—SPECIAL BUSINESS in these shares.

STOCK AND SHARE MARKETS.

Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information forwarded on application to—

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BUYER and SELLER of SHARES at the close Market Price of the day.

SHAREHOLDERS and INVESTORS may rely on all business being punctually and faithfully carried out.

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MESSRS. PETER WATSON AND CO.'S BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 813, VOL. XV., for DECEMBER month, will be published shortly, and sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

MESSRS. PETER WATSON AND CO., 18, AUSTIN FRIARS, OLD BROAD STREET, LONDON, E.C.

MR. ALFRED E. COOKE, DEALER at NET PRICES in EVERY DESCRIPTION of STOCKS and SHARES, 76, OLD BROAD STREET, LONDON. ESTABLISHED 1853.

SPECIALLY RECOMMENDED. NORTH D'ERESBY MOUNTAIN LEAD.

Price NOW ONLY 20s. per share, with NO FURTHER LIABILITY, but will soon be at a PREMIUM. The "CHEAPEST SHARE." The lode in No. 2 adit level is worth FULLY 25 cwts. of RICH STEEL SILVER-LEAD per fathom.

NOTE.—The EXPENSES of any independent inspector will be REFUNDED should his report not agree with those favourable reports already made by eminent authorities.

ALL BUSINESS transacted FREE of commission.

SPECIAL BUSINESS in ALL TIN, COPPER, and LEAD SHARES at CLOSEST POSSIBLE PRICES.

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MR. JAMES STOCKER, STOCKBROKER, 2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C. ESTABLISHED 1848.

BANKERS: LONDON AND WESTMINSTER.

MESSRS. EKINS AND CO., STOCK AND SHARE DEALERS, 14, QUEEN VICTORIA STREET, LONDON, E.C.

BANKERS: METROPOLITAN.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.

FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK."—A SEPARATE EDITION from that which appears in the *Mining Journal* is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.

BANKERS: LONDON AND WESTMINSTER, Lothbury.

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ESTABLISHED 1869.—BANKERS: ALLIANCE.

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BWLCH UNITED.—There is no mining investment on the market equal to this. I can strongly recommend the shares for a rise in price and dividends.

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MR. JOHN ROBERT PIKE, STOCK AND SHARE DEALER in ALL the PRINCIPAL INVESTMENTS of the day, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C. Investment Review for December now ready, free on application.

MR. JOHN L. M. FRASER, (Fourteen Years at the Great Minera Mines) CONSULTING MINING ENGINEER—SECRETARY AND AUDITOR—ROYALTY AND MINERAL ESTATE AGENT—SHARE DEALER—MINES, MINERALS, AND MACHINERY BROKER—GREENFIELD HOUSE, WREXHAM.

Specially recommends for INVESTMENT and RISE in price THE BRITISH SILVER-LEAD MINES.

Several hundred yards of a very rich lode, already proved, worth £30 per fm. Lease for 21 years, at a dead rent of £10 per annum, merging into a royalty of 1-15th. Copies of reports of Capt. A. Francis, Manager of Gwernymynydd, and other mining experts, on application.

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HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500-horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.

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TO INVESTORS, SHAREHOLDERS, TRUSTEES.

SAFE DIVIDEND INVESTMENTS PAYING 4 TO 6 AND 10 PER CENT. PER ANNUM ON PRESENT OUTLAY.

SHARP'S INVESTMENT CIRCULAR. The DECEMBER EDITION (post free), SHOULD BE CONSULTED BY INVESTORS AND SHAREHOLDERS.

It is a Reliable "Guide," giving valuable information and Sound Advice, &c. It gives Market prices; Dividends upon outlay, when payable; Reports, &c., &c.

IT CONTAINS ALL THE SAFE INVESTMENTS IN THE FOLLOWING:—

English, Foreign Railways.	Insurance, Gas, Waterworks.
Preference, Debenture Stocks.	Colonial, Foreign Stocks.
Indian, American Stocks.	British, Foreign, Colonial Mines.
Bank, Financial Shares	Tea, Land Shares.
Tramway, Telegraph Shares.	Shipping, Dock Shares.
Municipal Bonds.	Miscellaneous Shares, &c., &c.

HENRY GOULD SHARP, STOCK AND SHARE BROKER, 42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.

BANKERS: LONDON AND WESTMINSTER, Lothbury, London, E.C.

WANTED, TO PURCHASE, for the ROCKS TIN MINE:—THREE STEAM ENGINES. ONE 50 inch PUMPING ENGINE. ONE 30 inch ROTARY STAMPING ENGINE. ONE 20 to 24 inch WINDING ENGINE. With or without BOILERS.

Apply to Capt. COCK, Rocks Tin Mine, Roche, St. Austell.

WANTED, a MANAGER for the BILBAO IRON ORE COMPANY'S PROPERTY at PORTUGALETE (BILBAO), SPAIN, having a general knowledge of business, and capable of efficiently conducting the working of the MINES, RAILWAY, and SHIPPING.

A gentleman with experience of foreign countries and acquainted with Spanish would be preferred.

Applications to be addressed, not later than the 1st January, to the Secretary, St. Stephen's Palace Chambers, Westminster, S.W.

SILVER-LEAD.

THE ADVERTISER has TWO SILVER-LEAD PRODUCING PROPERTIES of extraordinary merit in one of the richest districts in the kingdom; and, with a view to their development, REQUIRES the ASSISTANCE of a PARTY who can COMMAND CAPITAL for that purpose, or to FORM A COMPANY.

For full particulars, apply to "Silver-Lead," 48, Hill Park Crescent, Plymouth.

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Address, "S. W.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

FOR SALE, a FREEHOLD PROPERTY, containing a deposit of GOOD BROWN HEMATITE IRON ORE, which can be mined and delivered into South Wales for about 7s. 6d. per ton.

Apply to PAGEN and Co., Metal and Mineral Brokers. &c., 41, George-street, Plymouth.

COLONIAL BANK (Incorporated by Royal Charter, 1836.)

Subscribed capital	£2,000,000
Paid up	600,000
Reserve fund	93,000

The Court of Directors of the Colonial Bank hereby give notice that, in pursuance of the provision of the Charter, a HALF-YEARLY GENERAL MEETING of Proprietors will be HELD at the Bank House, 13, Bishopsgate-street Within, E.C., on THURSDAY, the 8th of January, 1880, at Two o'clock precisely, to receive the report of the proceedings of the Corporation, and for the election of five directors and one auditor in the room of the following gentlemen, who go out by rotation, viz.:—

Rodolph A. Hankey, Esq., Joseph Hoare, Esq., Thomas D. Hill, Esq., Spencer H. Curtis, Esq., and William Rennie, Esq., as directors, and of Charles B. Gurney Hoare, Esq., as auditor, all of whom, being eligible, offer themselves for re-election.

The Transfer Books of the Corporation will be closed on the 22nd December, 1879, and re-opened on the 8th January, 1880.

By order of the Court of Directors, JAMES CLARK, Secretary.

13, Bishopsgate-street Within, E.C., 13th December, 1879.

THE FRONTINO AND BOLIVIA (SOUTH AMERICAN) GOLD MINING COMPANY (LIMITED).

Notice is hereby given, that the next ANNUAL MEETING of the Shareholders of this Company will be HELD at the City Terminus Hotel, Cannon-street, in the City of London, on WEDNESDAY, the 31st day of December, 1879, at One o'clock P.M., for the following purposes:—To receive the report of the directors, and the audited statement of accounts of the company for the two half-years ending the 30th June, 1879; to elect directors; to elect an auditor; and for other business.

By order of the Board, J. JAMESON TRURAN, Secretary.

184, Gresham House, Old Broad-street, London, E.C.

MR. WILLIAM BREDEMEYER, MINING, CONSULTING and CIVIL ENGINEER, U.S. MINERAL SURVEYOR for UTAH and DAHO. NOTARY PUBLIC.

Geological examinations; reports on mining properties; surveys mines, railroads, and canals, and superintends the workings of the same; prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts.

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AN ELIGIBLE OPPORTUNITY is now offered for the SETTLEMENT of an ACTIVE YOUNG GENTLEMAN in CANADA. He will be enabled to obtain his profession as a Solicitor in five, or if he be a Graduate in three years. Cost of living about £150. In the meantime he will have active work, and obtain a knowledge of the Dominion, which is destined to become one of the most prosperous of the Colonies. Premium, £100 sterling.

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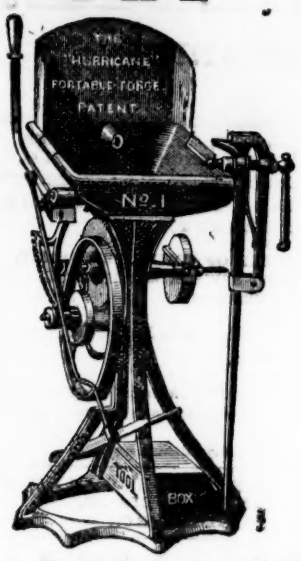
A COMPLETE AND PORTABLE SMITHY FOR £7 7s.

THE "HURRICANE" PORTABLE FORGE

(HARDINGE'S PATENT).



A Complete and Portable Smithy, possessing a Powerful Blast, a Forge, a Hearth, a Vice, an Anvil,

a Tool Grinder, (Emery), a Cutter, Circular Saw, and Bench, a Chuck, Two Drills, a Drill Rest, and a Tool Box.

PATENTED IN EUROPE AND AMERICA.

The "Hurricane" Patent Portable Forges possess advantages unobtainable with Forges of any other description. They commend themselves to the world, not only as being complete and portable Smithies of the highest practical value, but also for the extreme ease with which they are worked, the simplicity and compactness of their construction, and the steady continuous blast which speedily creates an unusually high degree of heat. The "Hurricane" Portable Forges are made in five distinct sizes and suitable for all purposes.

The Lever Handle can be used at any angle, or taken off altogether, and the Treadle used instead. There is a Recovering Spring to raise the Handle or Treadle. This arrangement secures all the easy motion of the old-fashioned bellows, is worked with much less effort than the Rotary Hand Wheel, and there are no Leather Bands to be burnt, no Cranks, and consequently no "Dead Centres."

A 2-INCH BAR OF IRON CAN BE RAISED TO A WELDING HEAT IN THREE-AND-A-HALF MINUTES.

PRICES:

No. 0.—The Amateurs', Jewellers', or Dentists' Forge, size 11 in. high, 7 in. pan, fitted as a complete Smithy, including Forge, Blast, Hearth, Vice with Anvil, Emery Wheel or Grindstone, Chuck, 2 Drills, Circular Saw and Bench, a Cutter, Tool Box, &c., Lever and Treadle. Weight, 10½ lbs. Muffler, 12s. 6d. extra ..... **£3 3s. 0d.**

This Model Forge is about one-third size of No. 1, is made in brass, and also in cast-iron.

No. 1.—Forge, Hearth (lined with fire-brick), and Pan 18 in. square, 2 ft. 7 in. high. Weight 132 lbs., with 8 in. patent Fan Blast and Emery Tool Grinder, complete, on a pedestal or standard. Muffler, 15s. extra ..... **£5 5s. 0d.**

If also fitted with a 2½-inch Vice and Anvil combined 21s. extra—total, £6 6s. complete.

Ditto Ditto (No. 1 A). Weight, 156 lbs. Fitted with 2½-in. Vice with Anvil, 4-in. Emery Wheel or Grindstone, 4-in. Circular Saw and Bench, Chuck, Cutter, and two Drills, Tool Chest, Lock and Key, &c. Lever and Treadle. Muffler, 15s. extra ..... **£7 7s. 0d.**

No. 2.—Forge, Hearth 26 in. by 34 in. Weight, 160 lbs.: 10-in. patent Fan-blast and 5-in. Emery Wheel, complete on frame with four legs. Lever and Treadle. Hood, 21s. extra. Muffler, 35s. extra ..... **£7 7s. 0d.**

If also fitted with a 3-inch Vice and Anvil combined 27s. 6d. extra—total, £8 14s. 6d. complete.

Ditto Ditto (No. 2A). Weight, 184 lbs. Fitted with two travelling wheels and all the attachments of No. 1A Forge, but increased in suitable proportion. Hood, 21s. Muffler, 35s. extra ..... **£10 10s. 0d.**

The Foreman Engineer and Draughtsman of December 1st, 1879, states:—

Portable Forges.—By far the most comprehensive and complete arrangement we have ever seen for its purpose is the "Hurricane" Forge. It would appear that the inventor and patentee had foreseen and provided for every contingency which could possibly arise in connection with smithy work in this *multum in parvo* forge. In small compass, and at small cost, the contractor, engineer, boiler-maker, ironmonger, gasfitter, and many other employers of labour have in it an invaluable assistant, whilst to Colonists its companionship is indispensable. We predict for the "Hurricane" Forge unlimited success.

For Trade and Export Terms, Testimonials, Agencies, and Licenses apply to the Sole Proprietors and Manufacturers,

THE "HURRICANE" PORTABLE FORGE CO.,

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BICKFORD'S PATENT FOR CONVEYING CHARGE IN SAFETY FUSE FIRE TO THE BLASTING ROCKS, &c.

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862 and 1874, in London; at the "IMPERIAL EXPOSITION," held in Paris in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; at the "UNIVERSAL EXPOSITION," in Paris, 1867; at the "GREAT INDUSTRIAL EXHIBITION," at Altona, in 1869; TWO MEDALS at the "UNIVERSAL EXHIBITION," Vienna, in 1873; and at the "EXPOSICION NACIONAL ARGENTINA," Cordova, South America, 1872.

BICKFORD, SMITH, AND CO., of TUCKINGMILL, CORNWALL; ADELPHI BANK CHAMBERS, SOUTH JOHN STREET, LIVERPOOL; and 85, GRACECHURCH STREET, LONDON, E.C., MANUFACTURERS AND ORIGINAL PATENTEES of SAFETY FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—

EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

BENNETTS' SAFETY FUSE WORKS,
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BLASTING FUSE FOR MINING AND ENGINEERING PURPOSES

Suitable for Wet or Dry Ground, and effective in Tropical or Polar Climates.

W. BENNETTS, having had many years' experience as Chief Engineer with Messrs. Bickford, Smith, and Co., is now enabled to offer Fuse of every variety of his own manufacture, of best quality, and at moderate prices.

Price Lists and Sample Cards may be had on application at the above address.

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NEAR CHESTER

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MAKERS OF

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CORNISH PUMPING, WINDING, AND EVERY OTHER DESCRIPTION OF ENGINE,

PITWORK, BOILERS, FORGINGS,

WATER-WHEELS, ORE CRUSHING, STAMPING, AND DRESS MACHINERY,

GOLD AND SILVER AMALGAMATING MACHINERY,

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ROCK DRILLS, AIR COMPRESSING ENGINES, and all the necessary accessories for MACHINE BORING.

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Original Correspondence.

ON STEAM BOILERS.

SIR,—Having in last week's letter adverted to the growing use of steel in the construction of boilers, it may be well to enlarge more on the special fitness of this material for the purposes both of stationary and marine boilers. The steel made in the Bessemer or Siemens-Martin principle commends itself for tensile strength, malleability, ductility, and uniformity of structure. Mild steel which possesses a tensile strength of about 26 tons per square inch is found to work and weld better than steel of a greater strength, but of a more brittle nature. In the work of boiler making the qualities named are liable to become weakened by the processes of shearing and punching holes in the plates. At the Landore Steelworks every boiler plate is annealed before it is sent out, in order to restore the qualities it may have lost in the process of shearing or of punching. At some boiler-works the holes are drilled—a practice much to be preferred, for it does not affect the quality of the plates as punching does. The effect of corrosion has also an important bearing on the subject of steel boilers; it is one of the greatest dangers to be contended with in all boilers, and as steel plates are used lighter than those of iron the effect of corrosion would be to destroy a steel plate quicker than an iron one, a reduction of 25 per cent. being often made in the thickness of plates of steel as compared with iron. Steel rivets are not found to be so uniform in quality as steel plates, but these have not given much trouble.

The use of steel to any large extent is confined to a few boiler-works in the Manchester district. Two of these use steel largely for the shells; the others use it principally for furnace tubes. Perhaps 50 other boiler makers in various parts of England have made boilers of various forms with Bessemer steel plates. The London and North-Western Railway Company have for twelve years used Bessemer steel plates for the shells of their locomotive boilers, and, it is said, with satisfactory results. Steel plates have been used for marine boilers, but only to a small extent. Perhaps not more than six of the leading marine engine builders have adopted steel, the prejudice against the new material being so strong that it would not have been used at all if they had their own way in the selection of the material.

It is estimated that there are at the present day about 200,000 boilers in use in the kingdom. Of these about 2500 are constructed with steel shells, and about 7000 with steel furnace tubes and fire-boxes. The advantages that were anticipated from the utilisation of a material 50 to 100 per cent. greater tensile strength than wrought-iron, and the reduction in thickness of plates this seemed to permit, has thus not been realised in practice by its being used to any extent for steam boilers.

The writer may be allowed to supplement these remarks by a reference to the flange-flued boiler, patented by Messrs. Hawksley, Wild, and Co., of Sheffield. These boilers are usually made of wrought-iron, but they can be made of steel wholly or in part, if desired. The principal feature in their Lancashire boiler is the flanged flues, and the absence of seams in them as far as possible. The flue is made by each length of plate being made of variable diameter alternately. This is done by bending over in the form of a socket pipe the edges of one plate, and thus forming a shoulder, to the ends of which the adjoining lengths are riveted. These flanges not only serve the purpose of expansion points, but they also increase greatly the power of the tubes to resist collapse. The variable diameter of the flues in each length of plate—to the extent of 5 or 6 inches—also contributes to a more perfect combustion of the gases, and a consequent saving of fuel. There are about ten lengths of plates in each flue; of these two are occupied by the furnace, and the remaining eight form a combustion chamber; four cross tubes are placed in the latter portion—in the alternate smaller diameters. Between the smaller sections of the two flues the boiler cleaner can stand upright, and have access to all parts of them. The advantage of having access to all parts of a boiler, internally as well as externally, is well known, for if any corrosion is going on periodical inspections of every part of it would reveal the latent danger, which might otherwise have escaped observation.

The same firm have introduced an expansion feed-water heater; it consists of small brass tubes through which the feed water is forced, entering at one end and passing through half of the tubes, and returning through the other half to the same end of the heater. The passage of the exhaust steam through the heater is in the contrary direction to that of the water. A heater to supply water for an engine of 20-in. cylinder would be 7 ft. in length and about 24 in. in diameter outside. It will be observed that the exhaust steam is outside of the brass tubes, and does not mix with the feed water; thus the water will not be contaminated with the grease and dirt too frequently mixed with the steam. The heater being placed between the boiler feeder and the boilers, the consequences, often troublesome, of passing hot water through the pump are avoided. The mixing of the feed water with the exhaust steam is considered so hurtful that some insurance companies refuse to insure boilers where this is in practice.

The heaters may be adapted for re-heating steam in compound engines when placed between the cylinders, also for heating feed water for condensing engines by placing the heater between the cylinder and condenser.

——— ENGINEER.

WIND-POWER FOR MINES.

SIR,—Having read with much interest the letters which have been published in the *Mining Journal* advocating the use of wind-power in mines, I may perhaps be permitted to direct attention to the invention of Mr. Beckingsale, of Newport, Isle of Wight, although from his not having completed the patent it has become public property. He constructs a horizontal wind-engine with self-adjusting sails made to act in such a manner that as they return against the wind they shall offer as little surface as possible to the wind, and also in such a manner that as they pass the central line and expose their surface to the wind a too sudden reversal of the position of the sails shall not take place. He also provides means for readily furling the sails, and also for limiting the movement of the sails and so controlling the speed at which the vertical shaft of the wind-engine is caused to revolve. For this purpose he mounts the vertical shaft of the wind-engine in bearings, and supports it on friction rollers, so that it may revolve with but little friction. The upper end of the shaft has standing out from it six or other number of radial arms or pairs of arms, one arm of each pair vertically below the other. To each arm or pair of arms, as the case may be, is jointed by a vertical joint a frame with a sail stretched over it. The vertical joint is not at the central vertical line of the frame, but to one side of it, by preference somewhat more than one-third of the width of the frame, is on one side of the joint, and somewhat less than two-thirds of its width is on the opposite side. The frame with the sail extended over it can either lie parallel with the radial arm, to which it is jointed, or can turn into a position at right angles to the arm, but is prevented from turning beyond the right angle by bridle cords or chains. When the frames lie parallel with the radial arms the larger division of the frame is towards the main vertical shaft.

The advantage of this arrangement is obvious. When the wind blows against the sails the sails on one side of the vertical shaft will lie parallel with the arms, and be exposed to the pressure of the wind, whilst on the opposite side they will turn into a position at right angles to the arms or thereabouts, and at first again act to aid in turning the shaft, and afterwards whilst returning against the wind offer as little surface as practicable to it. In order to be able to control the velocity at which the vertical shaft of the wind engine is caused to revolve, he leads the bridle cords or chains which are attached to the sail frames over guide pulleys or through eyes to a pulley fixed on to the top of a rod that passes down through the vertical shaft, and the cords or chains are attached to this pulley. The lower end of the rod extends below the bottom of the vertical shaft, and has fixed to it another pulley which is embraced by a brake strap. By tightening up the brake strap the rod can be held back from turning freely with the shaft, and the bridle cords or chains can be so caused to wind around the pulley—that is, at the top of the rod. Thus the movement of the sails on their vertical joints can be reduced, and the action of the wind to turn the vertical shaft of the wind-engine be reduced. Other suitable means than those above described may be adopted for limiting the movement of the sails on their vertical joints.

As it is essential that in all apparatus of this kind the speed should be uniform, Mr. Beckingsale proposes to apply a governor to effect automatically the regulation of the speed of the vertical shaft of the wind-engine, In order to be enabled to furl the sails each sail is by preferenee divided horizontally into two equal parts, and each side of each half of the sail is attached to rings or eyes which can slide freely up and down, or the vertical side bars of the sail frame lines are attached to each half of the sail, and are led over guide pulleys to the vertical shaft, where they may be made fast to cleats. By means of the lines the sails can be raised or lowered. Motion may be transmitted from the vertical shaft of the engine direct to various kinds of machinery, or may be transmitted to them indirectly by a horizontal shaft or geared to the vertical shaft by bevel toothed wheels. In order that the horizontal shaft may be driven in either direction desired, either a bevel wheel on the vertical shaft may be brought into gear with the top of the bevel wheel on the horizontal shaft, or another bevel wheel on the vertical shaft brought into gear with the bottom of the wheel on the horizontal shaft; thus the horizontal shaft may be driven in either direction desired, or both bevel wheels on the vertical shaft may by put out of gear with the horizontal shaft, and this shaft be allowed to remain at rest. I think it will be acknowledged that Mr. Beckingsale's arrangement is likely to prove effective, and not liable to get out of order, and as its first cost would be comparatively small, it ought at least to have a fair trial.

Portsmouth, Dec. 6. ——— ECONOMY.

MANUFACTURE OF MALLEABLE IRON.

SIR,—Well knowing that the working of the patent laws, and the protection alike of inventors and manufacturers, has always been freely discussed in the columns of the Journal, I should like to make some reference to the patent taken in May last by Mr. C. F. Claus, chemist, of Mark-lane, which almost looks like an attempt to secure under our (to inventors) very liberal patent laws rights which those laws rights which those laws were never intended to give. This gentleman applied for a patent in March, 1878, and failed to complete, consequently any invention described in the provisional specification filed with that application became public property on Oct. 1, 1878. I admit, to commence with, that some patentable variation of detail since discovered by Mr. Claus may have escaped my attention, but so far as I can see Mr. Claus's second prtent of May 10, 1879, is to all intents and purposes a patent for the same invention as that described in the provisional specification deposited in March, 1878. Nor is this all, for the final specification of the 1879 invention certainly appears to claim more of the 1878 invention as new than is claimed in the provisional specification of the 1879 invention, although Mr. Claus labours hard to show that it does not. In his recently filed specification Mr. Claus says:—

In a provisional specification, dated March 30, 1878, for improvements in the manufacture of malleable iron, I published the process by which, and the conditions under which the phosphorus and sulphur contained in pig-iron can be eliminated during its conversion from pig into malleable iron. These conditions I stated to be (1) the exclusion of all silicious materials, as far as practically possible from the iron whilst under treatment. For this reason I proposed to construct or to line the furnace with lime, magnesia, or alumina, and (2) the substitution for the usual silicious slag by basic nonsilicious materials. In order to give to such basic slag the necessary fusibility, and to bring it into intimate contact with the iron under treatment, and so as to cause it to have the necessary washing effect, I proposed the use of such nonsiliceous materials which in point of cheapness I considered to be the only practicable ones, I proposed for this purpose mixtures of lime and salt, chloride of calcium, and chloride of magnesium. These I proposed to mix with the usual quantity of nonsiliceous oxide of iron. An opportunity being denied to me at the time of carrying out said process on a manufacturing scale, the application for letters patent was not proceeded with. The salient points of the process are as stated, the use of nonsilicious basic materials for the construction of the furnaces, together with the use of basic nonsilicious materials for the formation of the slag. It is obvious that the nature of the process which effects the elimination of the phosphors during its conversion from pig into malleable iron remains the same, no matter what form or shape of furnace is used in the same, that is to say, whether the ancient force, the bresent puddling-furnace, the revolving furnace, the Siemens Martin, or the Bessemer furnace is used, so long as by the employment of such process the result—the elimination of the phosphorus, is the same.

It is further obvious that it remains the same also whether the dephosphorised iron is used as such, or is converted into steel by the subsequent addition of speigeleisen or carbon iron, whether it is heated to fusion or used in the pasty condition, whether the necessary heat during the conversion into malleable iron is produced by extraneous furnace fires, or by the combustion of the metalloids contained in the iron itself, so long as by maintaining during the process the conditions of a nonsiliceous clay in a nonsiliceous furnace the sulphnr is eliminated from the slag. The said process, as shown above, being now well-known, I wish it to be understood that though it does not form part of my present invention, still in carrying out my present improvements I retain the main features or principles of the same—that is to say, when it is a question of eliminating the phosphorus from iron during its conversion from pig-iron into malleable iron or steel, I use furnaces constructed of nonsiliceous materials, such as lime, magnesia, or alumina, together with nonsilicious slag-forming ar purifying materials, such as lime and salt, lime or magnesia, and chloride of calcium, or chloride of magnesium, either alone or mixed with oxide of iron, as will hereafter be further desired. As stated already I use in my present improvements furnaces or apparatus constructed of nonsiliceous materials—lime, magnesia, or alumina, or mixtures of these, but instead of producing the cohesion of the particles of lime, as has been proposed by others, by the use of siliceous materials, such as clay or silicate of soda, I use nonsiliceous materials, such as chloride of calcium, chloride of magnesium, chloride of iron, or fluoride of calcium, and even chloride of sodium, either each separate, or mixtures of two or more of these substances. The chlorides named I use either in solution, or they as well as the fluoride of calcium may be added in the form of fine powder, or the lime, magnesia, and alumina (or mixtures of alumina with these) may be exposed to the action of liquid or gaseous hydrochloric acid or chloride of iron. The treatment with gaseous hydrochloric acid I prefer to carry out by passing the gas through these materials while in a highly heated state in a kiln. The quantity of the chlorides or the fluoride of calcium to be added to the other materials is easily found by experience, but I find that an admixture of about 10 per cent. is sufficient in most cases. The lime should be burned at a very high temperature for the purpose of this process. When alumina (in the form of bauxit) is to be used together with lime or magnesia, and the chlorides or fluorides, I snbject the mixture first to an intense heat before mixing it with further quantities in order to line out furnaces with it. By dcing so the material becomes much denser and more unalterable by heat or exposure to air.

In making mixtures of lime, magnesia, and alumina (of either two or all of these), together with chloride or fluoride of calcium, chloride of magnesium, or iron, I may do so in any proportion thought best suited for the purpose, and to any such mixture I may add the fluoride of calcium, or any of the chlorides named above, or I may expose any of these materials or mixtures of materials to the action of hydrochloric acid gas at ordinary or elevated temperature; or I may produce mixtures of alumina and chloride of calcium in other ways—for instance, by decomposing chloride of aluminium by lime or mixtures of chloride of aluminium with any of the other chlorides, by lime, or mixtures of magnesia and chloride of magnesium by means of lime and so forth, and such decomposition may be either effected in solution or in the dry state, and by heat, so long as they remain mixtures as aforesaid. The materials prepared as described are best suited for what is termed "ramming," but it may also be made in bricks or blocks in any suitable manner. Where the mine, magnesia, or alumina mixtures are used for lining out furnaces, such an ordinary puddling furnaces, the contact with brickwork should be avoided. When operating upon iron containing phosphorus and sulphur in furnaces constructed of or lined out with the materials named I add to the iron under treatment such substances as a slag-forming material as are as free as is practically possible of silicic acid, for the the purpose of taking up the phosphoric silicic acid formed in the process of puddling or conversion, I, therefore, use mixtures of lime and anhydrous or dry chloride of calcium, chloride of sodium, or chloride of magnesium, or fluoride of calcium, either alone or together with oxide of iron. I may, however, also use chloride of calcium or fluoride of calcium together with oxide of iron only.

If the operation of converting pig-iron into malleable iron is separated into two parts—that is, if the silicon in the iron is separated first, and the slag containing it is removed first—then I prefer to use the fluoride of calcium in the first operation, although the chlorides may also be used. For the second part of the operation—that is, for the removal of the phosphorus—I prefer the use of the chlorides, though the fluoride may be used also; what is intended to be conveyed to be conveyed by the above is that I may use any or all of the materials named. By the addition of the chloride or fluoride of calcium to the other additions a fusion of these materials is brought about, and a fluid nonsiliceous mass is produced, resembling the ordinary siliceous slag, which like it enters into close contact with the iron under treatment, and taxes up with acidity the impurities of the same. The process or processes described above are equally applicable whether the ordinary puddling furnace, the rotatory furnace, the Bessemer, the Siemens-Martin, or other furnaces are being used, and the effect of their application—the removal of the phosphorus sulphur from the iron under treatment—will be the same in all cases. By the exposure to heat of any of the chlorides named in contact with iron chlorine is liberated, principally as chloride of iron, and part as hydrochloric acid, both of which may be condensed in water, or may be passed into a kiln filled with heated lime, to be again converted into chloride of calcium.

I think all practical men will admit that the above contains an amount of confusion as to what even Mr. Claus himself claims to be new, which would make it impossible to sustain the patent at all; but its very confusion would make it obstructive and objectionable, because he could commence proceedings against any and every iron-master, and the annoyance would continue until the case should be actually tried in Court. Perhaps Mr. Claus will tell us what there was new on May 10, 1879, in the application of fluoride of calcium, chloride of calcium, chloride of magnesium, chloride of iron, or chloride of sodium (either one, two, or more of them), together with lime, magnesia, or aluminа (either one, two, or all of them) for the preparatioa of materials for construction or lining furnace. In my opinion it is no newer than the application of fluoride of calcium, chloride of calcium, or chloride of sodium, together with lime, or together with oxide of iron, or together with lime and oxide of iron, to produce a non-siliceous slag-forming material when iron is being treated in furnaces lined out as above described with the view of removing the phosphorus therefrom. As to the recovery of the chlorine liberated in the process I will not say that it is now new, because I am just in the position of the man who could not prove that a rhinoceros was unable to climb up a gum-tree because he had never seen one try; but that it would be economic to attempt such recovery I, from practical experience, very much—

Fenchurch-street, Dec. 16. ——— DOUBT

MINES AND MINING IN AUSTRALIA.

SIR,—As a good deal of attention is now being turned to our (really *un*developed) mineral resources, a few notes on the important subject of gold at deep levels may be of interest to your readers.

It is now some 30 years since the first excitement commenced in these colonies as to the discovery of the precious metal. Although it had been made known by Count Strzlecki to Sir George Gipps in 1839, and noticed by Rev. W. B. Clarke in 1841, it was not till Mr. Hargraves, in 1851, declared that Australia was an immense goldfield, that any notice was taken of the great mineral wealth by which we are surrounded. On the 8th of that year, a nugget weighing 13 ozs. was found, and on Sept. 8 the Government began to receive a large increase to their revenue by charging 30s. a month for miners' rights. At that time the total *male* population of the colonies was 46,000, the greater number of whom were soon *en route* for the western hills, where the great discoveries had been made.

Little more than a quarter of a century has passed since then, and we have become one of the nations of the earth. A favourable climate, fertile soils, fine harbours, have all lent their share to this advancement, but the foundation will be found to be resting in the "*Auri fames*," which drew so many thousands to our shores. For a brief space of time after the first intelligence became known, a calico city sprang up. On the heights of Ophir, a thousand tents shone in the light of the morning sun, while from dawn till dark busy life in varied forms of mining toiled in the ravines and gullies below. The Turon followed Ophir, when thousands more found occupation in the beds and banks of that river, 10 to 12 miles of which soon rang in chorus with the click of the pick, the clatter of the shovel, and the rumble of the cradle. Ballarat broke out after the Turon, then Bendigo; and the whole of the civilised world rang with tales of the wealth which was being unearthed. Travel over the ground now, and you will find nothing but the silent hills and the endless holes from which sprang the source of all this wealth: while the quiet village of Sofala and a few energetic Chinamen are all that remain of the excitement which once prevailed. Since then numerous discoveries have been made in all the colonies, and nearly all the easily procured gold has been raked out. Of course it is impossible that the whole of the country should have been prospected, but we must never hope for those old days when such fields as Bendigo, Ovens, and Rocky were virgin ground. As soon as the rich alluvial deposits gave out, attention was then turned to the quartz matrix, and here some rich finds were obtained from such outcrops as showed visible gold. In the early days crushing was confined to the hammer, pestle, and mortar, or at the best but a bad system of "dollying;" yet many reefs, such as the Castlemaine, paid handsomely even with such rude appliances as these.

The discoveries made in this way turned the attention of practical men to the fact that numbers of reefs would pay well if machinery could be brought to save the gold and they could be worked cheaply. In reefing as well as in alluvial we find Victoria far in advance of New South Wales. As early as 1860, 61,075 tons of stone were crushed, from which 38,378 ozs. 6 dwts. of gold were taken, giving an average of 12 dwts. 13 grs. a ton, while the Beechworth Mine for 3725 tons yielded 13,862 ozs., an average of 3 ozs. 14 dwts. 11 grs. The districts of Sandhurst, Maryborough, and Castlemaine also produced largely, giving an average of nearly 1½ oz. For that year there were 417 engines, of the aggregate of 6645-horse power, employed in quartz mining, while the total value of plant amounted to over a million and a quarter. In 1864 these had still further increased, and over 2000 distinct reefs had been discovered and named. The first era of quartz mining in this colony really dates from 1869, when Hawkin's Hill broke out. Some desultory pot holing had been done there as early as 1857, but when, in 1869, a trial crushing from the Rose of England of 20 tons went 63 ozs. to the ton, the excitement was first commenced. But when in 1871 Krohman and Co. sent a cake of 24,000 ozs., the result of one crushing, for exhibition, the hill was rushed.

Immediately after this came the news that Holterman's company had obtained 16,000 ozs. from 100 tons of stone, and that 44,000 ozs., 176,000*l.*, was banked in one week; a mania commenced, which further reports made worse. Carroll and Beard's company obtained 5534 ozs. from 41½ tons of stone; Brown's claim yielded 25,000*l.* worth of gold in a very short space of time; Fisher, Beard's, Moores Star of Peace, Ransthorne's, Rapp's, all yielded large returns at he same time; and anyone who had a sheet of scrip connected with Hill End imagined that their fortunes were made.

The thirst for gold inflamed the minds of young and old, the cool man of business, as well as the rash speculator. In a day 72,000*l.* was found and paid for Beyer's and Holterman's claim, while Brown's company was floated for 25,000*l.* in two hours, 90,000*l.* was paid for Carrol and Beard's, 80,000*l.* for Krohman's; such immense finds were enough to turn men's minds, and they were turned. People rushed madly for scrip, and in only too many instances grabbed passionately and heedlessly at anything which contained the word gold mine. In numbers of instances fabulous prices were paid for land which certainly contained no gold, and in many instances never even existed. Hawkin's Hill, though perhaps one of the richest gold fields that ever was opened, through that insane rush, has done an amount of harm to the geueral interests of the colony, which it will take years to recover. Thousands lost money, many were brought from affluence to ruin, knaves and swindlers were only too ready to play upon the gullibillity of unfortunates; and through that, Hawkin's Hill and mining generally received a dogs-name.

It was also a strange fact that in nearly all the claims the richest gold was pitched upon during the first few months, when the craze raged. Compared with the amount of labour done on the Hill since then without any material return, the ground taken out which yielded rich gold is very small. This also produced derogatory effects, and if we look at that rush we will find that it has much to answer for. So much gold being obtained so quickly made the properties reach absurd prices, and it caused them to be floated fully paid-up shares when nothing wants capital more than quartz mining. It also caused directors to pay away almost every shilling in dividends instead of holding a large reserve as they ought to have done. Though in this respect the Hill is not without a parallel. At Adelong the other day a dividend of 9d. was declared, and within a month a call of 1s. had to be made, and when the rich patches which were being worked when the mines were floated gave out people imagined that the mining was a swindle, and when no longer dividends became payable they imagined that the mines were not so.

Another thing which caused even practical men to look doubtfully upon quartz mining were the opinions of geologists. Many, Sir R. Murchison among the number, said that gold was deposited in the surface, and would not be found to exist in deep levels. This dictum has done harm to mining nearly all over the world. At California hundreds left their claims as soon as they reached poor country. At Gympie, because the geologists inspecting there said that the gold would not go below the greenstone numbers left splendid claims, and the same cry was raised as soon as the rich patches at the Hill began to give out. Now, if people would only keep from jumping at conclusions, if they would only bring the same system into gold-mining that they have to do in any other business they will find it as permanent paying and quite as honest a pursuit as any other. For this let us turn first to the Brazilian mine, Morro Velho. This was first started in 1834, and for four years it was worked at an immense outlay, at a dead loss, and it was not till 1842 that the first dividend

was declared. Let figures speak the rest, though the average yield is barely half an ounce to the ton, yet the total value of the gold extracted is 2,902,480*l.* The net capital was 128,400*l.* Paid in dividends, 756,245; machinery and buildings (out of profits), 140,000*l.*; stores, &c., 39,000*l.*; reserve fund, 72,249*l.*; making total profit of 1,007,494*l.* In this mine the stone is increased in richness from 7 dwts. to the ton in 1847, to 12 dwts. in 1865.

In Victoria we find the gold still keeps on with persistent regularity in the Magdala, Clunes, and other mines, even though some of them have already reached to 1200 ft. level; while their proprietors have in some instances been made millionaires. At Gympie, where some blockhead miners persisted in working on through the greenstone, the gold was to found to come in with even greater richness than it was found on the surface. Some stone taken from the 400 ft. level of the Aurelia claim is now in the exhibition, and it is positively peppered with the precious metal. The Monkland, another famous claim on the same line of reef, has now reached 520 ft., and a late telegram from there states that they are raising stone. There are 30 payable reefs there, and all of them down considerable depths, proving that the richest gold is not on the surface.

Again, coming closer home. At Hill End the late reports from the 770 ft. level of the Star of Peace and the 594 ft. level of Krohman's —or if we go to Charters Towers and Ravenswood, where they are down on the underlay as much as 1200 feet—all point to the same fact that gold is permanent, and if worked with ordinary skill and economy will be proved payable. Take away the fabulous prices which we were given, and we see that nearly every mine up there has paid, and if they had kept large enough reserve fund to have propagated the work there is very little doubt but that some of them at least would have been on rich patches again ere this. By referring to the following figures, kindly supplied to us by Messrs. Hardie and Gorman, some idea will be gained of the extent of these mines:—Carrol and Beard's Gold Mining Company (Limited) was floated on May 2, 1872; capital 90,000*l.*, in 90,000 shares of 1*l.* The amount of gold raised up to December, 1878, was 15,037 ozs. 3 dwts.; worth 57 008*l.* 17s. 3d. The amount of wages paid was 20,065*l.* 5s. 3d., and the dividends amount to 36,000*l.* Krohman's Company was floated on April 3, 1872; capital 80,000*l.* The amount of gold raised to December, 1878, was 48,189 ozs.; valued at 183,760*l.* 2s. 2d. The wages paid amount to 25,758*l.* 18s. 1d., and the dividends to 157,000*l.*, being 1*l.* 19s. 3d. per share on 80,000 shares.

Beyers and Holterman's gold mining company was floated on April 17, 1872; capital, 72,000*l.* The amount of gold raised up to December, 1878, was 26,403 ozs. 15 dwts., valued at 106,407*l.* 15s. 9d. The wages to the same date were 22,538*l.* 16s. 9d., and the dividends paid were 77,700*l.* These three companies were amalgamated on Dec. 31, 1878, and are now carrying on operations under the name of Krohman's, amalgamated capital (nominal) 100,000*l.*, in 100,000 shares, which a week ago could have been bought at 1s. 6d. a share. The Star of Peace Gold Mining Company (Limited) was formed on May 10, 1872; capital, 90,000*l.* The gold raised by this company up to June 30, 1879, is 16,665 ozs., valued at 64,414*l.* 15s. 10d. The wages to same date amount to 56,886*l.* 5s. 4d., and the dividends to 14,625*l.* These figures show what large returns have been already received, and when it is proved that gold is permanent to such depths at Magdala, Charters Towers, Star of Peace, and Gympie we cannot help wondering what New South Wales people are doing that they take so little interest in the gold fields around them. At the Barrington there are no less than 70 reefs already discovered, all of which if worked properly would yield rich returns. In that field the Hidden Trreasure is down 200 ft., and the stone at that depth is richer than at the surface. The Mountain Maid has reached the 175 ft. level, and the stone has become compact and widened out to such an extent that it is more payable now than when it was first opened.

The Mechanics, Rose and Thistle, and 20 others are all down sufficient to prove them, and yet the miners cannot get their stone crushed or the gold saved. On the Bowman, Mr. Chalmers has proved by tunnel a reef 190 ft. from the surface, and there the same cry is that all that is wanted is a little capital to obtain machinery.

Everything points to the greatness and permanence of our gold fields, and to the inactivity and inertia of our capitalists. We have heard it said that there are not half-a-dozen real practical miners in the colony. We cannot wonder at it when they have to go elsewhere to get their services recognised. If we look at Gympie we find that miners are able and willing to sink 400 feet, paying 8*l.* a foot on the chance of striking a reef. It is struck, and New South Wales people read the telegrams, say "lucky wretches," and yet would not invest a 20*l.* note alongside their own door. We know that there has been such a large amount of chicanery and swindling in connection with gold that one may naturally look askance at it. But take away that—it is possible and easy—once look at quartz mining in its true light as an honourable, true, and permanent pursuit, and the fortunes not only of individuals but of the colony will be made.

Sydney, Nov. 1. R. D. Adams.

TIN—ITS FUTURE.

Sir,—Your columns are ever open to the eliciting of facts and their circulation wherever your widely-read Journal goes. The continuance and permance of the yield of tin of the Mount Bischoff Company has been a subject of great interest to all interested in tin mining in this country. It has been argued that alluvial deposits of the nature of Mount Bischoff were never known to extend to a great area or a great depth. How far this is about being realised the following report may enable your readers to infer. It must be borne in mind that, from the last half-yearly report to the directors, the yield was but 30 1-5 lbs. per ton of stuff, excepting two places on the brown face. That it may be less than at the present time few of your readers will doubt, seeing that great stress is laid upon the immediate erection and completion of the stamps or battery, that, "quantity may make up for quality and both ends made to meet." How largely a stamps is dependent on a good supply of water for dressing, and how uncertain that supply is at certain seasons, is well known to most of your readers. The future to the shareholders does not seem very assuring.

Mount Bischoff.—Mr. Kayser, writing under date Sept. 29, says:—"As the work is carried on as usual with the small allowance of water at my disposal, the only changes in the faces are in the brown face and that at the foot of the self-acting. In the first-named the porphyry (soft) rises in one place to a height of nearly 12 ft., quite white and friable, with little or no tin. Of course for an outsider it may appear fearful compared with the sand I had the last two winters, but, having sunk the 27 ft. shaft not more than a chain from the place I speak of, we need not apprehend anything more than what befalls any other mine—to have both rich and poor stuff in one and the same mine, either underground or on the surface. The change in the last-mentioned face is, I believe, for the better, as by all appearance the ground deepens again behind a bar of high reef, but as I have not opened sufficiently I will say no more about it at present. I nearly forgot to mention that the cliffs on the mount side on the new dam are by all appearance loose rock, as I am already washing wash-dirt close to it without indication to be close to the cliff." Under the date of Oct. 1 Mr. Kayser reports:—"According to the telegram I received from you last night I fancy that the people who have the interest of the Co much at heart, frightened you at last. The Bischoff Company is a national undertaking they say, and they have a perfect right to express their opinion. Singular to say, these same people very seldom have anything good to say about this national company. Whether the motive is to frighten some of the shareholders or bring the value of the shares down altogether it is hard to say anyway. I hope shareholders will not allow themselves to be led by the nose by a few ignorant or designing gentlemen. I admit that the face is not what it was since the sand is worked out, but what of that? Is it usual that a mine pays in all parts alike? I never heard of a mine yet where such a thing has happened, and I do not think even Mount Bischoff will make an exception. Does the yield of ore per month show any change, or do I ferret about for good dirt to keep the output the same? No; nothing of the kind; I work straight ahead, and although it gives me a little trouble to make the two ends meet I do it. If you can recollect some of our conversations more than two years back you will find that even then I mentioned what I thought would happen, and for the first time I spoke then of a more powerful crushing plant, so that I would be able to make the quantity do for the quality. I am forced by more reasons than one to try and get my 40-head battery finished as soon as possible.

The reports some of these people spread about are only laughable, and will not affect any who have seen the mine, or know a little about mining. In my last letter I have already explained how things are looking, but since then even it has changed again. In place of the friable white porphyry gossan has come in, which does not look as if it carried much tin, but I do not think it is so far off it. I grant it would be so much the better if the whole brown face was nothing but that nice black-looking sand, nearly half tin; no one would like that better than myself, but it would be foolish to feel disappointed on account of it not being so. I long for the time to be able to work the brown face on a deeper level, as I am pretty certain I can then turn out more tin with less expense than at the present day. Very few people know what ground I have got underfoot. I think it only right you should publish a short report, extracted from my letter for the information of the shareholders, so that they cannot say "we never got any information through the office." The face I spoke of in my last close to the cliff near the new dam changed the following day. I came up to a perfect wall almost perpendicular.

That the Banca production will fall off this coming year—that the shipments from Australia have also decreased—that the deliveries for the month of December will show a decrease of 500 to 600 tons, notwithstanding all but one week lost to business, and that the total stocks being something less than 8000 tons—a proportion in comparison to the enormously increased consumption that would warrant a very much higher price than now rules—the future unmistakeably points to more profitable prices to Cornish tin producers.

Dec. 24. H. Waddington

THE NATIONAL COAL SUPPLY ASSOCIATION SCHEME.

Sir,—My correspondence in the Journal of the 13th and 20th inst. was directed to the meetings of the Northern Coalowners at Morley's Hotel. I shall now, with your indulgence, studiously eschewing verbosity, rigorously confine myself to facts and figures, which I can justify and verify according to my invarible custom. A few days since, in a letter to the Standard, a merchant in noticing the profits of dealers quoted Silkstone coal at 10s. 6d. a ton at the pits. In showing the cost to the National Coal Supply Association "in posse," I shall put down the price at the pits at a reduction of 2s. 6d. a ton, thus—

Cost of Silkstone house coal at pit	8s.	0d.
Railway rate	8	3
Trucks	1	0
Drops	0	2
Loading vans (4½d. to 1s.)—say	0	4½
Breakage	1	7
Cartage	2	6
Sacks	0	6
Management, office, and advertising expenses	1	0
Total	23	4½
South London 1s. per ton extra	24	4½
Average London cost	23	10
Deduct saving in weight	0	10
Cost to the National Scheme	23	0

It is perfectly indifferent to me what coal I have to analyse the cost of. I have before me the "Public and Dealers" lists of last market day, from the largest and several of the very first coal merchants and coalowners in the Metropolis, for Silkstone house coal delivered into customers' cellars at 22s. a ton. Further remark is unnecessary as to the coal merchants selling at 22s. the same quality and category of coal that costs the National Coal Supply Association 23s.—*Little Tower-street, Dec.* 22. W. Joseph Thompson.

SWANSEA AND TRURO TICKETINGS.

Sir,—If we may judge by the sales of copper ores last week at Truro and Swansea (within two days of each other) there can be no doubt that very soon we shall have an end to Cornish Ticketings, for I observe that the Eastern Mines selling copper ores were paid for them at a standard of 4*l.* 5s. per ton less than at Swansea, which on the month's sale of ores of 2321 tons makes a difference to the mines selling their produce at the rate of no less than about 7250*l.* a year. Why cannot all our Cornish copper mines agree, and sell at Swansea? It must come to this unless we receive better prices from the smelters.—*Truro, Dec.* 22. A Looker On.

COPPER ORE TICKETINGS—TRURO AND SWANSEA.

Sir,—On Tuesday, Dec. 16, 2109 tons of copper ore were sold at Swansea Ticketing, realising 12,164*l.*, and, compared with the previous sale, the standard was about stationary. On Thursday, Dec. 18 (two days only later), 2321 tons of copper ore were sold at Truro, realising only 8927*l.*, and, compared with the previous sale, there was a decline of no less than 4*l.* 5s. per ton.

There was no change in the price for English copper, and I should like, therefore, to know, Sir, if you or some of your readers can enlighten us on the subject as to this so serious a drop in the standard at Truro of 4*l.* 5s. per ton, whilst only two days previously there was no alteration at Swansea? I think the managers of such mines as Devon Consols, South Caradon, Crebor, Marke Valley, &c., should know the reason why their companies are to be the innocent sufferers, and thus be forced to accept simply what price is offered by the smelters. To my mind it clearly shows that if we can obtain a standard of 4*l.* 5s. per ton more for our produce at Swansea than by selling at Truro the sooner both the managers and shareholders of Devon Consols, Marke Valley, South Caradon, Crebor, &c., abandon the Cornish farce of so-called Ticketings the better, and sell at Swansea, where there is, I am informed, always a better demand and better prices given for low produced ores, which are required for the purposes of mining with the rich foreign ores. I repeat that unless buyers of Cornish copper ores give better prices the sooner these Cornish Ticketings are put an end to the better for both shareholders and the lords of the soil. The copper mines of Cornwall have suffered long enough in having to put up with these low prices, but surely with a revival of trade and an increasing demand for English copper the smelters buying our ores should give correspondingly increased rates. Instead of 4*l.* 5s. drop last week they could have as easily advanced the price to that extent and more, and then have an excellent profit themselves. Copper Miner.

Lisheard, Dec. 24.

"THEN AND NOW."

Sir,—The large number of new mining undertakings which with the revival of trade are being incorporated, and many more of which will no doubt make their appearance in the coming spring, shows favourably the public interest taken in this profitable source of industry, and that although in hard times it may (as in other sister branches of the commerce of the country) become depressed, and lose the greater part of its vitality, yet when the reaction takes place it bounds into its legitimate position with an energy which forbids denial. It is but a few years ago—still sadly fresh in the remembrance of the many—when on a certain "Black Friday" Lombard-street trembled to its foundations, and the glittering treasure in its vaults quivered in sympathy when ruin and poverty, with its concomitant train of evil, led to a commercial depression in our home circle. We were taught a righteous lesson that, "All that glitters is not gold." We had the crisis of that year as a star to guide us on our surer course, and to warn us from again grasping at the golden bubble which sparkled under the visionary rays of over-strained speculation. I speak of our own land only. With all our resources, our energy, and our wealth we could not fail in but little time to place ourselves again on the pinnacle from which our rashness had flung us. While other countries wrested with each other for the guerdon of the conqueror we kept on the even tenor of our way, seeking Dame Fortune's golden smile, and assiduously waiting upon her. The good old lady rewarded our courtship, and threw her golden showers around us with generous prolificacy. The "consummation so devoutly to be wished for" had arrived at last. We had only to eat, drink, and be merry; and just one little thing more, which as a general rule was quite ignored—be wise. Once more speculation was monarch of all. Joint-Stock companies came into existence for every conceivable object, and more especially for mines; but the great majority of these enterprises were for the development of mineral wealth in foreign lands.

The gullability of the English capitalist, flushed with his share of a great national prosperity, was an "El Dorado" for plausible Uncle Jonathan, and Flagstaffs, Last Chance, Tecoma, Emma, Mineral Hill, Utah, and other kindred companies were floated at a moment's notice, while the beaming faces of directors, and the glowing hopes of confiding shareholders, with their visions of untold wealth and ingots of gold and silver, have never been realised. Do not let us repeat the foolhardy game with returning prosperity. Are we never to be wise? Will no price buy for us a lasting experience? As I have said, new companies will be coming out in profusion early in the New Year. We have untold wealth in our own land lying beneath our feet. Why not look at home first? Why not develop our own mineral treasures before obliging foreign nations with our money to develop theirs, and then with about one chance in a few hundreds of ever seeing our money back again? Why not go in for the vast mineral resources of Cornwall and Wales? All Nevada seems unequal to them; and if you do invest in Welsh and Cornish mines use caution and prudence in doing so. Do not put your money into any such enterprises without making an independent enquiry as to the chances of mineral success, and then do not believe all you hear. Divide it into half, if it turns out the whole so much the better for you. See that the management is good, and the directorate composed of responsible men; and, lastly, do not be led into sinking your money in an enterprise with (say) a capital of 20,000*l.* or 30,000*l.*, upon which only some 1500*l.* or 2000-. has been applied and subscribed for, and the allotment proceeded with—doing so is utter madness. These concerns having no stability come to grief in no time, and are most powerful agents in bringing mining into disrepute, and adding business for the Liquidators' Court. There is a silver-lead mine in Carmarthenshire which will serve as a model for what all mining enterprises should be; it is called Bwlch United, with a capital of 20,000*l.*; they have paid for their property, fine machinery, and all expenses. They have 5000*l.* or so on hand, and 5000*l.* reserve, and this mine has proved the greatest success of the day. Why it has done so is no matter of wonder; it is a specimen of legitimate mining. A well chosen property, properly worked, and with adequate capital. There would be many more Bwlch Uniteds, and far fewer liquidations, were the same plan more universally adopted. W. B. Cobb.

29, *Bishopsgate-street, London E.C.*

ECLIPSE ROCK DRILL.

Sir,—To those who are addicted to falsehoods themselves it is perfectly natural that they should suspect the truthfulness of others; it is equally true that ignorant people generally live in a "fool's paradise," and as a consequence impute ignorance to everybody else but just their own clique. Perhaps this, and the fact that the Darlington drill is so good a machine as to make the Eclipse a misnomer, accounts for Messrs. Hathorn and Co.'s abuse of my name in last week's Journal. I certainly shall not apologise to them, but convict them of the error, by referring to the Isle of Man Times (the leading journal here) of Jan. 26, 1878. In the advertisement sheet there are two illustrations of the Reliance Compressor, and the Eclipse Rock Drill appears in large printed characters in connection with it. Then follows some descriptive matter, too ridiculous to copy, amongst which the following statement appears:—"This rock drill has been successfully worked in several of the leading mines in the kingdom. They have been erected and are producing admirable results at the Manx Mining Company's sett (recently the Ohio), and at many other mines." I ask you, Sir, if such a statement does not clearly convey the idea that the Eclipse was the drill employed at the Ohio Mine, and exonerates me from the imputation Messrs. Hathorn and Co. so foully casts upon me? Perhaps, with their usual slipperiness, they will wriggle out of this too. John Barkell.

Rushen Mine, Dec. 17.

WATER-POWER FOR MINING PURPOSES—No. V.

Sir,—In former communications I have rather fully set forth the applicability of water-power in mines by the means of water-rods where the points of operations are distant from the waterfalls. I have also set forth an important fact in connection with the subject—that the relative positions of the falls of water to those of operations, in point of altitude and distances, is immaterial so far as the practical application of the mechanical operations were concerned. It has also been set forth that the relative altitude of waterfalls and points of mining operations would involve pressure at the depressed end of the rods in proportion to the difference of such elevation. Ponderosity, of course, would be in proportion to distance, so far as distance was concerned. The sectional dimensions of the rod, however, may be varied without materially interfering with either the driving or driven machines, by increasing or decreasing the speed of the rod. Where there would be any considerable length of rod the cost of the piping would be a matter of importance. This cost could be met to a great extent in the manner named above—by reducing the sizes of rod and pipe, and increasing the velocity in proportion. It is true the friction of the rod would be increased, but that friction being overcome by water-power as a driving power, its cost—that is, the cost of the additional friction thus created—would generally be of no material consequence. Compressed air, although a suitable medium under certain circumstances for the transmission of mechanical power, is not so useful as a rod, on account of its elasticity. It can, however, be used as a substitute for it to a great extent. But the same motion cannot be given in corresponding volume—or rather distance—at both ends in practice. The driven machinery will travel a far less distance than the driving machinery, on account of the difficulty of extracting the same power from the air that has been put into it by the driving or compressing machinery. The loss of power in the use of compressed air is, under the most favourable circumstances, very great. When, however, the compressing is performed by water-power that loss does not weigh. George Rickard.

Winchester, Dec, 24.

GWENNAP MINES.

Sir,—Forty years ago the parish of Gwennap contained more working mines than any parish in Cornwall, and better mines than could be found elsewhere in this county. I will first mention the principal of them: the Consolidated Mines, which were set to work in 1819 under a lease lor 21 years to Messrs. J. Taylor and Co., yielded a profit during their term of 600,000*l.*; Tresavean yielded a profit to Capt. T. Teague and Co. of 449,000*l.*; Wheal Unity yielded a profit of 360,000*l.* to Messrs. Messer and party. Mr. Messer had on his shares about 80,000*l.* which he left to his son, who bequeathed it to the late Mr. T. Simmons, of Killiganoon, who when he received it was a clerk at Poldice Mine. Treskerby gave about 200,000*l.* profit to Messrs. Williams and Co., of Scorrier; Wheal Damsel gave to them a similar amount. Wheal Quick, near St. Day village, before I went to Gwennap in 1827, is said to have paid 300,000*l.* in dividends. Wheal Jewell (which took in Wheal Quick, but which was not worked therewith) yielded about 250,000*l.* profit to Messrs. William and Co. in a very few years; the United Mines (Ale and Cakes and Poldory) yielded some profit to Messrs. Williams and Co.; Wheal Clifford, previously called Wheal Friendship, was set to work in 1833, and before it was amalgamated with United Mines yielded about 300,000*l.* profit to Messrs. Williams and Co. Wheal Squire, which ceased to work about the year 1815, is said to have given large and rapid profits, but the amount I never heard. Penstruthal yielded in one year about 60,000*l.*, and subsequent profits. Old Wheal Buller, which is partly in Gwennap and partly in Redruth, yielded good profit to Messrs. J. Taylor and Co. up to about the year 1835. Tingtang Mine and Wheal Gorland were profitably worked by Messrs. Williams and Co. up to about the year 1830. All the above mines are now idle, but Penstruthal old mine is about to be re-worked under the name of South Penstruthal; the other part of the old sett being worked under the name of North Penstruthal. Bell Vean is in the hands of Capt. T. Parkyn and Co., but little or nothing is being done there. Although there is a steam stamping-mill in the sett it has not been used in reducing the tinstone, which is said to be abundant in the lode, but I have never inspected it. Comford Mine is in the hands of Mr. J. L. Peter and Co., whose prospects are described as being highly satisfactory. Mr. Peter has also Tresavean sett, and keeps the mine accounts in the account-house where so many carousals were kept up by the late Capt. Wm. Martin and friends, when the mine was in prosperity. Treviskey Mine, adjoining Tresavean at the east, yielded large profits—now idle; Trethellan and Brewer Mines also—both idle. Carvannel, worked by Capt. Jos. Lyle and Co., was always poor—now idle. Wheal Beauchamp yielded a good deal of copper ore, but with the balance-sheet I have no acquaintance. Pennance Mine was worked by the late Sir W. Williams and Co. with a great loss. The Gwennap (*alias* Poldice) adit is 70 fms. deep in this mine. The chief part of the cost was incurred in driving that adit; the workings below are not extensive. West Damsel (now idle) yielded good profits. Carharrack Mine and East Damsel (both idle) yielded

much copper ore, and so did Wheal Maid, but the profit, if any, I cannot state. Poldice was always poor since I first knew it in 1827, but it is said to have given large profits in ancient times. The grandfather of the late Mr. John Williams, of Scorrier, was the manager here in 1748, when the Poldice adit was commenced, and it is probable that it was rich during his management; 100 years afterwards it was in the hands of his great grandsons—now idle. About 30 years ago the late Mr. F. Pryor worked Poldice, Wheal Maid, Wheal Unity, and Wheal Gorland in consolidation, but with a heavy loss—I think 70,000*l.* A little mine called Wheal St. Aubyn, on Tresamble Downs, was very slightly tried. South Clifford is a poor mine—idle. East Tresavean, near Bissoe, a poor mine—idle. Wheal Andrew was last worked by Messrs. Gill and Co., with a loss. In 1822 it was called Union Mines, being worked in connection with Nangiles by Messrs. Williams and Co. Wheal Pink, also worked by them, was poor; likewise Wheal Clinton, near Scorrier. Grambler United yielded good dividends in past times. Cathedral Mine, lately resumed, is a promising mine. West Jewell (idle) was one of Mr. Greene's mines; poor, formerly called Tolcarne Mine 50 years ago. R. SYMONS.

Truro, Dec. 17.

LEAD MINING.

SIR,—Lead has advanced since the end of last year 30 per cent., and is still gradually rising, and I see nothing to retard its sure but steady progress. The operations in shares have, however, been restricted the last few weeks. This is a general rule, parties curtailing their business transactions in view of stock taking, and to stand well at their bankers. This temporary lull is, however, the opportunity for those who can seize it. With a resumption of business in the New Year shares in sound mining properties will command attention. All speaks well for an early revival of trade. The political atmosphere is clearer, although with sunshine clouds must be expected. The timorous ignore the vast resources of this country, and the energetic character of its people. It wants, however, no Homeric lore to sing its praises. The deeds done daily by its sons show they are worthy scions of their forefathers on land, on sea, and in the mine. The riches of this country consist in its minerals—the backbone of its wealth. This integral source has stimulated inventive genius. To it we owe the loom, the engine, the railway, and a thousand other handicrafts, which as a bright, pure, resplendant fountain give wealth and happiness to its inhabitants. It furnishes art with its sinews, and art is a prudent steward that lives on managing the riches of Nature.

We read of the immense wealth obtained from lead in Cardiganshire, but in travelling through it, it is sad to look upon so many mines stopped. Silence reigns around them; no echo resounds from the hills of busy activity. Invested capital lies idle. Some will say—How is this; is there no lead still to be got? Yes, plenty; only give to the fissures in those rocks the means which beneficent nature has given to thee, and the cornucopia of wealth shall again be given. Look at home and not on foreign climes, helping those who help themselves, and put restrictive duties on our trade. A mine once stopped finds detractors who do not wish to look into the true cause. Forsooth, the mine must be empty. They, however, wish to suit their own philanthropy. They metaphorically love their own children. They are good fathers to their kind, and whilst lamenting the folly of others who do not wish to taste their gilded pill, eventually choke themselves with their own selfishness. I am told with the New Year several properties will be put before the investing public, one of which, on the Glog Fach or Lisburne Mines lode, will in due time call for a few remarks from me on its great and intrinsic value.

London, Dec. 23. VERITAS.

THE CAMBRIAN MINE.

SIR,—The real position of the Cambrian Mine, in Cardiganshire, being unknown to the public at large, and a very erronenus estimate of the undertaking, as I have reason to know, being given by brokers to enquirers, I trust you will do me the favour of publishing this letter, which ought, I think, to dispel all donbts as to the prosperity of the company, and show persons in search of an investment that in buying Cambrian shares they will lay their money out in a manner likely to be highly remunerative. The last sales of ore of the Cambrian Company at Swansea, on the 16th inst., as per the circular of Henry Bath and Sons, were as follows:—

Tons.	Percentage.	Price realised.
30	17¼	£351 15 0
13	21½	138 16 6
7	13¾	63 17 6
Total		£604 9 0

Now, it is clear that this percentage is enormous. It is more than double that of most of the other mining companies mentioned in the circular I have referred to, and is, if I mistake not, for the circular is not before me as I write, in excess of that of all Considering that the Cambrian Company possesses a very large tract of ground, that the depth to which the mine has been sunk is at present inconsiderable, that mining engineers declare that everything indicates the certainty of the find increasing enormously as operations proceed, and that one eminent authority, who some 30 years ago discovered the Devon Great Consols Mines, has stated in writing that in his opinion the Cambrian Mine is likely to show results similar to those of the mine above referred to. I take it that, humanly speaking, there cannot be a doubt as to the certainty of the ultimate large profits to be made by shareholders in the Cambrian Company. Those persons, therefore, who are misled by the reports of brokers will have cause to regret their credulity, and I would advise all to pay the company's office in Palmerston Buildings, City, a visit, inspect the official reports and papers, see specimens of the ore, and judge for themselves. A SHAREHOLDER.

London, Dec. 24.

CORNWALL GREAT CONSOLS.

SIR,—Referring to the letters of Professor Owen and Captain Goldsworthy, which appeared in your last week's Journal, we beg to say that the Professor Owen who attended the inaugural meeting of the company is the well-known geologist, of Woolcott Park, Redland, Bristol. We gave an explanation to this effect in the Times of the 18th inst. With regard to Capt. R. Goldsworthy a mistake occurred which, under the circumstances, is quite excuseable. It was Capt. J. Goldsworthy who inspected the property; but as on Oct. 1 Capt. R. Goldsworthy wrote, "I will go over the South Kitt Hill on Tuesday or Wednesday in the coming week, and will forward you my report as quickly as possible after," it was not strange that a report which came some time after was taken as the promised one. The moment, however, the mistake was pointed out to us we at once made a correction.—*Bristol, Dec.* 24. BISHOP, EARLE, AND CO.

CORNWALL GREAT CONSOLS, AND F.R.G.S.

SIR,—In last week's Journal Professor Owen gives direct denial to his having been present at the, I presume, mythic inauguration of the Cornwall Great Consols, held at Callington. I hope his doing so will be the means of eliciting who the Professor Owen, "with the light of his vast experience," really is; I fancy this is also a myth—perhaps we shall see by-and-bye. I invariably doubt the *bona fides* or worth of any mining concern where the prospectus contains reports by so-called Professors with the mystic letters F.R.G.S. attached. I infinitely prefer opinions on mines by such men as Capt. Goldsworthy, "who declines from motives he does not care to explain here," but which may be guessed. In this practice I am associated with a large number of my friends who hold great interests in mining adventures. Messrs. Bishop, Earle, and Co. may have obtained a Professor Owen from some American College, if so his address is desirable; until it be published, and more light be thrown on the matter by Bishop, Earle, and Co., I shall have my doubt as before on this or any other mining affairs attempted to be introduced with the opinions of an F.R.G.S. as a recommendation, since these important letters by no means guarantee a practical knowledge of the particular department of the science the promoters wish them to serve. If any person takes the trouble to look over the list of the F.R.G.S. members they will find that not one in fifty is that of a practical miner, most of the gentlemen devoting their attention to fossils, or paying 2*l.* 2s. per year to enable others to do so. Professor Owen deserves the thanks of the readers of the Journal for thus publicly exposing what appears like an attempt at imposition, and may be the means of preventing much disappointment and loss.

ONE WHO ABJURES F.R.G.S. ON MINING MATTERS, AND AN OLD ADVENTURER.

CORNWALL GREAT CONSOLS, LATE SOUTH KITT HILL.

SIR,—I have been asked to speculate in the South Kitt Hill Mine, and, guided somewhat by the report of the agent—Capt. Miners—I am half inclined to embark. Before, however, fully making up my mind, and to enable me to form an opinion as to the soundness of his judgment, I shall feel much obliged if you, Sir, or any of your numerous correspondents, will be so kind as to inform me, through the colums of the *Mining Journal* whether this Capt. Miners is the same gentleman who recently reported on the great discovery at Wheal Crebor, and who, I believe, predicted that it would not last?

Shoreditch, Dec. 22. ALFRED COOMBER.

EAST CHIVERTON.

SIR,—I shall esteem it a favour if you can find space for the following question in your valuable Journal. Can any reader give a reason why East Chiverton shares are quoted so low—1¾ to 2¼, when 9*l.* 10s. 3d. has been paid on each share? The shaft is sunk to the 90, and there are 16 fms. of backs, at least 12 fms. long, as soon as the lode is struck, which it is expected to be before the end of this month. Now, if West Chiverton shares sold at 80*l.* each during the time the mine was developed from the 70 to the 120 fm. level, can anyone tell us what the shares stood at when the 90 fathom level was being driven towards the lode? We must not forget that the manager of East Chiverton has pronounced the lode in the two mines to be unquestionably one and the same. AN OLD SHAREHOLDER.

DYLIFFE MINE, AND THE NORTH WALES CORRESPONDENT.

SIR,—I have always read the weekly reports of your North Wales Correspondent with a certain amount of interest, as he appeared to me to be one of the few contributors to the *Mining Journal* who in writing about mines in this district could be relied upon. I was curious to see what he would say about Dyliffe in his remarks on works and mines contiguous to the Cambrian Railway, but was hardly prepared for the following statement in his last report respecting Dyliffe:—"There are three lodes at this mine In its best days the workings of the mine were on the old main lode. This was lost, and by the former company was **not** found. I do not know that it has yet been found, but I should be glad to hear that it has; it ought to be." Will your Correspondent be good enough in his next report to name the lode, and the company to which he refers, and also his authority for the statement.—*Dyliffe Mine, Dec.* 24. R. DEAN.

BRITISH SILVER-LEAD MINES.

SIR,—I have great pleasure in again drawing public attention to this highly mineralised property, which, I believe, is destined ere long to rank as one of the most productive and profitable in Wales, for already a large extent of ore ground is proved on the south lode worth 30*l.* per fathom, and taking only 100 fms. in length by 20 fms. in depth, would be worth 60,000*l.*, and after deducting 37½ per cent. for cost of raising, &c., would leave a profit of 37,500*l.*, or 187½ per cent., on the total capital, but as it is not anticipated more than 10,000*l.* will be required to fully equip the surface to attain this result, the profit would be 375 per cent., or equal to paying back the capital subscribed, and giving the shareholders 20 per cent. for 13¾ years, but it must also be remembered that the parallel or north lode is entirely virgin, and as it is well known the bearing strata crosses the lodes, it is but fair to assume a like result when developed, which can easily be accomplished by putting out a short cross-cut north. The lease is for 21 years, at a dead rent of 10*l.* per annum, merging into a royalty of 1-15th, and the vendors having shown great confidence in the success of the mines by taking only 600*l.* in cash, and their balance of 5400*l.* in free shares. Taking all these things into consideration, and the increasing value of lead and zinc ores, I do not hesitate to say that I consider few, if any, better investments are before the public. JOHN L. M. FRASER,

Greenfield House, Wrexham, Dec. 23. Consulting Mining Engineer.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Dec. 23: Profit for November, 4600*l.*

RICHMOND CONSOLIDATED.—The following telegram has been received with reference to the developments under the Tip Top ground:—Chamber opened 80 ft. by 35 ft.; ore followed upwards 45 ft.; downwards 65 ft., at angle of 70°; pitch northerly.

— Telegram from the mine at Eureka, Nevada: Week's run, $49,000, from 1074 tons of ore. Refinery, $33,000.

— R. Rickard, Dec. 3: Since my last operations both in mine and smelting works have been carried on with usual regularity. The 200 westerly drift has been extended 18 ft. in very favourable ground. The 200 main drift has been extended only 5 ft.—the ground is very hard; consequently slow progress is being made. The 400 quartzite drift has been advanced 22 ft. in very favourable ground for drifting—the character of the ground is not changed since my last. The 500, west from No. 12 chamber, has been extended only 2 ft., and is now in a total distance of 118 ft.; the present end is very hard limestone. The 500, north from No. 12 chamber, is without any change to mention. The 600 main west drift has been extended 8 ft. in very favourable ground. The 800 westerly drift has been advanced 6 ft. in very hard limestone. The 900 west drift hrs been extended 8 feet. and the No. 2 cross-cut on same level 36 ft., without any material change in the ground. The new ore body in the 400 is opening out very well—it is already opened 60 ft. in one direction, and 40 ft. in the other, with ore still standing on the sides. A rise has been started to explore the ore body; it is up ft. in very good ore. As soon as convenient we shall start a winze, to explore in depth; this ore body is undoubtedly a continuation of the ore bodies discovered in the 600. There is nothing new in any of the other ore bodies; they are looking very well, and turning out the usual quantity of ore. The furnaces are in good working order, and smelting the usual quantity of ore.

ALMADA AND TIRITO CONSOLIDATED.—The directors have received the following telegram from Mr. Clemes: The shaft furnace works very smoothly. The result of the preliminary trial was so good that we are setting aside black ores for a larger smelt. The assay for silver of the pig-lead is 270 ozs. per ton (2000 lbs.)

EBERHARDT AND AURORA.—F. Drake: Progress report for week ending Nov. 29:—Eberhardt and Aurora Tunnel: Distance run to Nov. 22, 4619 ft.; run for week ending Nov. 29, 36 ft.; run for month of November, 136 feet; distance run to Nov. 29, 4655 ft.—Remarks: The progress has been slow, on account of the ground being so exceedingly difficult to break; it is very doubtful whether the contractors will be able to complete their 1000 feet at the present price per foot. During the past month they have not only lost their own time but some £400 to $500 besides. They have given me notice (per agreement) that they will be obliged to give up the contract very soon unless they should come upon better running ground. I will keep the price as low as possible.

SANTA BARBARA (Gold).—Thomas Tregellas, Pari, Nov. 16: During October 1051 tons of mineral were stamped, producing 4597 oits. of gold, and from the additional strakes erected at No. 5 stamps 44 oits. obtained, giving a total produce of 4641 oits. of gold for the month, or equivalent to 4·415 oits. per ton of stone stamped. This produce of 4641 oits., valued at 8s. 6d. per oit., amounts to 1972*l.* 8s. 6d., and the estimated working cost for the month at Exchange 21½d. being 1088*l.* 12s. 1d. leaves an estimated profit of 883*l.* 16s. 5d. for October. Mr. Tregellas reports that at the various sections in operation in the mine the lode presented much the same size and appearance as last advised, the stone raised during October being of good quality, and the gold produce fairly satisfactory. The quantity of mineral treated at the mills was 47 tons less than the amount stamped during the previous month of September, but the produce showed an increase of 493 oits. of gold over that month. The average force for October was rather more than that of September, but a less number of holes were bored in the mine, chiefly owing to more hands having been employed on the timber work. No stone had been quarried at the No. 4 and 5 stopes south, and operations would not be resumed until the timber work fixing at the No. 5 stope was complete. Very little had been done towards sinking No. 1 shaft, owing mainly to an increase of water coming, not from the bottom of the mine but from a higher horizon; arrangements were, however, just perfected by which this water would be drawn off, and sinking then resumed. The mine captain's report has not come to hand. The quantity of ore raised during the month amounted to 1313 tons, of which 262 tons were rejected as refuse stone, and 1051 tons treated at the stamps.

JAVALI.—Extracts from managers' letter, dated Nov. 6: The following is our report for the past month, which, to our great misfortune, is again a most unsatisfactory one.—Mine: 64 varas have been driven in the mine; the rest of the stuff crushed was taken from the manto. The whole of the month we had most excessive rains, which greatly impeded our working.—Mill and Remittance: 30 stamps worked 21½ days, crushing 1650 tons of quartz, which yielded 280¼ ozs. of gold, making an average of 3 dwts. 4 grs. per ton. We suffered some stoppages by the heavy rains causing our water-course to break away, and which had to be repaired immediately.—Tailings Mill: 185 tons of tailings were treated, but up to the time of dispatching the mail we have been unable to smelt down the result.—Receipts and Expenditure: The expenditure was 831*l.* 7s. 7d.; the remittance is valued at 650*l.*, thus leaving a balance loss of 231*l.* 7s. 7d. Dr. Hannay sends his report:—"Labour is as usual. Have made arrangements to attack the Nispero lode from the surface, thereby securing all the good stuff which has been left standing by my predecessors, and already next month will show a decided improved result. The sinking of the shaft below the Nispero and Socorro will be continued to prove the value of the lode at greater depths; as it appears at the present we may expect from these workings a very good issue. Trusting that the New Year will realise our best hopes, and wishing you all the compliments of the season."

DON PEDRO.—Capt. Vivian reports, under date Nov. 18: The produce for the first division of November amounts to 464 oits.—Mines and Drainage: No. 1 Sump-Shaft: The water has been drained and the shaft cleared of debris 5 fms. 4 ft. below the 40, and as far as I can judge at present everything is in a fair way for getting down to the bottom level—the 50. No. 2 drawing shaft is cleared of debris 4 ft. below the 40, but so far the water from No. 8 stopes, as well as from No. 6, and the canoa—in fact, all that from the north end is still passing through the said level, which, however, may be let down at any moment, when very much better progress will be made in clearing the shaft referred to. The 40 fm. level is cleared and secured 4 fms. 3 ft., and driving the said level towards No. 6 shoot is resumed. I may mention that this shoot is standing intact below the said level, therefore judging by the results obtained when last worked, and particularly at the point where left off, a large body of fair quality ore may he calculated on before reaching the bottom of the 50.—Bryant's: A rise has been commenced from No. 8 old shoot towards the new lode discovered, with a view to further explore this part of the mine, which work is being carried on with a few spare hands without interference to other work. So far there is no change here to note.

PITANGUI (Gold).—T. S. Treloar (Nov. 17) reports that the communication between the 15 and the side level at the 20 was effected on Nov. 3, and the driving of the latter resumed on same day. The main body of jacotinga had since been intersected, together with some water, although not in such quantity as to impede progress. Operations in the end, however, had again been suspended for the present, this step having been decided upon in order that search might be made for the Ouro Podre vein, said to exist in the clay formation through which they have now passed. By continuing the cross-cut driven from the 15 to the air rise, old workings had again been met with, and it was found that they were going still deeper in this direction, although the end of the 15, now 15 fms. from the shaft, was in virgin ground. Some of the crushed matter removed was auriferous, and at the side of the old workings where they had cut into them there was a portion of a hard vein containing a large percentage of iron, samples from which were very encouraging. More than this, Mr. Treloar was not in a position to say when the mail was dispatched, enough not having been seen of it. There were two cross-cuts going in from the side level at the 20, and it was hoped that in a few days' time more could be reported on the subject.

ISABELLE (Gold and Silver).—Dec. 1: Total distance from monument to face of tunnel is now 1423 feet; advance for the month 180 ft. in tunnel; advance in side drifts 43 ft.: Total, 223 ft. The rock has been for most of the month good drilling and blasting. We were delayed five shifts putting in our air pipe, and also some delay caused by our water supply ditch freezing, and afterwards a rain storm causing a freshet, washing debris down from the gulches. Also had to break in an entire new shift of drill-men. The work at this date is proceeding favourably. Machinery all running smoothly. Strata penetrated during the week ending Nov. 29 was of a shelly nature peculiar to wall formation. Strata running west 16° south, crossed by frequent stringers of quartz bearing north and south, stained with copper and containing a small quantity of iron sulphurets. The manager writes, Dec. 5:—"I had a small stringer of quartz in the the tunnel yesterday that assayed $13 gold—no silver."

ALAMILLOS.—Dec. 10: In the 20, west of San Felipe's shaft, a great length of rich lode was driven through in the past month; worth 2 tons of lead ore per fathom. The 100, east of Taylor's engine-shaft, continues poor. The 115, west of this shaft, has changed unfavourably of late; present value 1 ton of ore per fathom. The lode in the 100, west of Taylor's shaft, is large and regular, but does not carry any ore. The 85, west of San Adriano's shaft, is without improvement. In the 60, east of San Victor's shaft, the lode is large, strong, and promising, yielding ¾ ton of lead ore per fathom. The lode in the 70, being driven in the same direction, is large, consisting chiefly of quartz and carbonate of lime. The lode in the 50, east of Judd's engine-shaft, is small and worthless. In the 70, west of Judd's engine-shaft, a cross-cut is being driven south towards the main lode. Preparations are in hand for sinking Taylor's engine-shaft from the 115 to a 130. The large tip-plat will be completed in a few days. Mervin's winze below the 40 is unproductive. Alphonso's winze is situated west of San Victor's shaft, and sinking below the 60 is commenced in a lode worth 2 tons of ore per fathom. Cristobal's winze is being sunk below the 60 through a fine course of ore, producing 3 tons per fathom. The returns of ore were continued very regularly in the past month, during which time the stopes, on the whole, did not undergo any change of importance. The ordinary surface works are kept on steadily, and the machinery is in good condition. We estimate the raisings for December at 175 tons.

LINARES.—Dec. 10: Pozo Aucho Mine: In the 115 fm. level, driving east of Warne's shaft, the lode is very large with good stones of ore. In the same level, driving west of Warne's shaft; the lode is open, with occasional stones of ore. The lode in the 135 fm. level, driving west of Peill's shaft, has fallen off a little in value during the past few days. There is no improvement in the 120 fm. level, driving west of Peill's shaft; the lode is sufficiently large but contains no ore. In the 105 fm. level, driving east of Peill's shaft, there is being laid open a good length of valuable lode producing 2 tons of lead ore per fathom. The lode in the 135 fm. level, driving east of Peill's shaft, is regular, and opening paying ground worth 1 ton of lead ore per fathom. There has been an unfavourable change in the 120 fm. level, driving east of Peill's shaft, during the past fortnight, but it still produces 1 ton of lead ore per fathom. A good length of valuable lode is being laid open in the 105 fm. level, driving east of San Francisco's shaft, worth 2 tons of lead ore per fathom. In No. 232 winze, sinking below the 105 fm. level, the lode has split into branches that are fast separating, almost requiring the sinking of two winzes; it is worth 1 ton of lead ore per fathom. No. 233 winze, sinking below the 120 fm. level, is improving a little and produces 1 ton of lead ore per fathom. There was no difficulty experienced in keeping up the usual weighings of ore during the past month, nor have the stopes in that time undergone any change worthy of notice. The surface work is going on very regularly, and the machinery is in good condition. We estimate the raisings for December at 200 tons.—Quinientes Mine: In the 100 fm. level, driving east of Taylor's engine-shaft, the lode continues very regular but does not yield any ore. A great length of valuable lode has been driven through in the 90 fm. level, east of Taylor's engine-shaft, worth 1 ton of lead ore per fathom during the past month, but it has failed lately. The 80 fm. level, driving east of San Carlos' shaft, produces ½ ton of ore per fathom, and is a strong, regular, and promising lode. In the same level, driving east of boundary shaft, the lode is again improving, and is of a promising appearance, producing 1 ton of lead ore per fathom. A good length of valuable lode is being opened up in the 50 fm. level, driving east of boundary shaft, producing 2 tons of lead ore per fathom. We estimate the raisings for December at 75 tons.

FORTUNA.—Dec. 10: Canada Incosa: The lode in the 120 fm. level, west of O'Shea's engine-shaft, is small, and has declined in value to ½ ton per fathom. The 50, west of Abercrombie's shaft, yields good stones of ore, but scarcely enough to value. In the 60, west of the same shaft, the lode is compact, regular, and promising, and is valued at ¾ ton per fathom. The 70, west of San Pedro's shaft, has laid open a good length of fairly productive lode, worth ¾ ton of lead ore per fathom. The lode in the 80, west of this shaft, is strong, with good stones of ore, and is worth ½ ton per fathom. In the same level east the lode is split into small and unproductive branches. The 70, east of San Pedro's shaft, continues to open up a valuable piece of lode, producing 1 ton per fathom. The lode in the 120, east of O'Shea's engine-shaft, is disaranged and unproductive. The lode in the 100, east of Lowndes' shaft is open, and easy for driving through—it yields ¾ ton per fathom. The 90, east of Caro's shaft, has fallen off in value during the past fortnight. In Luis' winze sinking below the 40 the lode is changeable, with occasional lumps of ore—it is valued at ½ ton per fathom. In Pepe's winze, below the 50, we expect an improvement, there being a good lode in the back of the level under it; at present it is worth ½ ton per fathom.—Los Salidos: In the 160, west of Taylor's engine-shaft, the lode is small, with good stones of ore in the upper part of the level; worth ½ ton per fathom. The same level east of this shaft has fallen off very much in value during the past fortnight, and is now producing 1½ ton per fathom. The lode in the 145, east of Taylor's shaft, is strong and well defined, with good stones of ore. The 130, east Taylor's engine-shaft, is not so productive as it was—now yielding ½ ton per fathom. The 120, east of San Pablo's shaft, is still opening out a fine run of ore ground, worth 4 tons per fathom. In the 110, east of San Miguel's shaft, the lode is small, and of no value. The 80, west of Palgrave's engine-shaft is without improvement. The same level east has declined in value in the last few days to ½ ton per fathom. There is still a fine lode in the bottom of Taylor's engine-shaft sinking below the 160, but not so rich as it was a fortnight since; present value 3 tons per fathom. In Hibert's winze, below the 110 fm. level, the lode is strong, regular, and well defined, and yields 3 tons of ore per fathom. The usual weekly weighings of lead ore were kept up very steadily throughout the past month, during which there were only the ordinary fluctuations in the value of the stopes. The works at surface are going on very regularly, and the machinery is in good condition. We estimate the raisings for December at 300 tons.

BUENA VENTURA.—Dec. 10: The lode in the 25, driving east of No. 1 shaft, is still opening profitable ground, and worth 1 ton per fathom, but the lode is not so productive as it was. The 25, driving west of No. 2 shaft is at present unproductive. With the sinking of the No. 1 engine-shaft below the 25 the men are getting on well. In No. 4 shaft sinking from the surface the lode is getting larger, and contains stones of ore, but not enough to value. The No. 1 winze sinking below the 10 has fallen off in value during the past fortnight. In the Feliza set, the engine is working satisfactorily, and the water is down nearly 30 fms. The pitmen are dividing and casing the shaft and fixing footway at a good rate, but cannot keep pace with the drainage. At the new engine-shaft in the Emma sett the heavy rains interfere with the enlarging of it, otherwise great dispatch would be made. Meanwhile we have men driving west from the bottom of this to meet others coming east from a shaft to the west of it. The lode in each of these drivings is worth 1 ton in a fathom.

PRESENTATION TO MR. TREVOR GRIFFIN, MANAGER OF BALLYCORUS WORKS, COUNTY DUBLIN.—A deputation from the officers of the Mining Company of Ireland, consisting of Messrs. Wm. Harold (secretary), E. T. O'Brien, Wm. Ker Shea, John W. Bevan, and Wm. Hennessy, waited on the above gentleman at his residence on Saturday last, and presented him with the following address:—

TO TREVOR GRIFFIN, ESQ., MANAGER OF BALLYCORUS WORKS.—As the time has almost come for our official separation, we, your brother officers of the Mining Company of Ireland, cannot permit you to depart from amongst us without conveying to you in a marked manner our appreciation of your character, the pleasure we have all felt in our many years' association with you, and our regret at now losing you We wish also to express our sincere sympathy in the cause of your retirement, and best wishes for your speedy restoration to health. We ask you to accept these few lines and the accompanying souvenirs as the cordial outcome of those feelings.

The souvenirs referred to consist of a handsome writing set, comprising an ink-stand, stationery case, blotter, and book carrier, made of Coromandel wood, heavily mounted in chased ormolu, and having finely-executed wedgewood cameos in raised settings on each article. The entire is the work of Messrs. Austin and Co., Westmoreland-street, Dublin. We may add that Mr. Griffin has been 22 years in the service of the Mining Company, and that every official subscribed to pay him this well-deserved compliment

Meetings of Public Companies.

RICHMOND CONSOLIDATED MINING COMPANY.

The half-yearly general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday,

Mr. George Hopkins, C.E., the chairman, presiding.

Mr. Hubert Akers (the secretary) read the notice calling the meeting. The minutes of the last meeting were read and confirmed. The report and accounts were taken as read.

The Chairman said: Gentlemen, the report having been taken as read, I will proceed now to make a few remarks. I will say at once, gentlemen, that it is always a pleasure for directors to meet shareholders to report from time to time as to the way in which we are progressing, and that pleasure is always greater, of course, when things are running smoothly and well, and when we are in a state of prosperity, and I say it advisedly at the commencement of my remarks that I think at no period of the history of this company were the prospects and position so good as they are to-day. The mine itself is opening out well, the furnaces are running well, and so is the refinery, and last, but not least, we are getting good prices for our products. These things combined have brought about a state of affairs which is eminently satisfactory, as I hope to be able to show you presently. This being only a half-yearly meeting, we do not lay and accounts before you, but the directors always do this—at the end of the first six months of the current year we have a balance-sheet made out for our own information, bringing everything up to date as closely as we possibly can without interfering with the progress of the works and operations at Eureka. We have stock taken of all bullion in process of refining, and accurate accounts of all lead and stores in hand. That balance-sheet shows a very satisfactory result for the six months, the company having made a profit of about 70,000*l*. That is for the six months ending August 31. Of course a good deal of that profit is due to the increase in the price of lead. Our lead was brought into last balance-sheet at the then selling price—3·9 cents per pound. Since that time it has gone up to 5, 5¼, and 5¼ cents per pound, at which price our last lot was sold, and the result is that we have made an additional profit of 24,000*l*. in the half year—not over the 70,000*l*.—because taking the lead at 3·9 cents showed a profit of 53,000*l*., and the additional profit is somewhere about 24,000*l*., bringing the actual profit up to about 77,000*l*., but which, to keep on the safe side, we have mentioned in our report at 70,000*l*. Now, gentlemen, I do not wish you to run away with the idea that because we have made that amount of profit in the first six months of the current year we should make the same in the present six months. I do not think we shall, for you will see by the report that during that time we smelted 25,000 tons of ore, which is pretty nearly at the rate of 1000 tons per week. During a great portion of that time we had two furnaces running, and for some portion we had three. But I think, gentlemen, we shall do this: Our profits for some time past, with the one large furnace only, have been from 8000*l*. to 10,000*l*. per month, therefore we may very safely expect that at the end of the financial year in February we shall have made a profit of something like 120,000*l*. That on a capital of 270,000*l*. is a very satisfactory result. (Cheers.) Now, as to the mine itself. The explorations are very satisfactory. We have been doing a large amount of work, and in looking over the last accounts which we received from the mine—namely, the accounts for the month of October—I find that we are removing ore from no fewer than 22 different places in the mine. Now, when we bear in mind, gentlemen, that at any one of those 22 places the ore may at any time open out and develope into a very large body—(hear, hear)—I think you will see at once that not only is the chance of ore giving out, or rather the mine giving out, very small indeed; but, on the other hand, there is every probability that the mine will continue for some time, and we hope, as we go down, with increased results. The chambers, Nos. 11 and 12, which have now been opened out nearly twelve months, are still yielding large quantities of ore. We have already taken out some 25,000 tons from them, and the superintendent reports they are still looking well, and yielding large quantities of ore, and so with other parts of the mine. For some time past we have been cutting ore in the 600 ft. level in a great many different places—sometimes of very good quality, and sometimes not so good; but we have from time to time been cutting it in all directions; and I have a very strong opinion, although perhaps we have not at the present time actually got it, that we have somewhere in the vicinity of the 600 level a very large body ofore. The indications all point to that, and that is the opinion of our agents out at the mine. As regards the ore struck a few weeks ago under the Tip Top you will realise the importance of that when I tell you that the place where it is struck is some considerable distance from any other point where we are getting ore, and is, so to speak, really a new find. No doubt we shall follow it, and ultimately connect it with some of the other ore bodies; but at the present moment the ore at that point is entirely detached. (Hear, hear.) I look upon this discovery as so important, that I should not be doing justice to you if I did not lay before you every particle of information that we have received with reference to it. The first information which we received was in atelegram from Mr. Probert, in which he states—"Struck ore in the Fourth under Tip Top; developed 40 by 20." This was followed by a letter from Mr. Rickard, dated November 19 (the telegram having been dated December 2), and in that letter of Nov. 19 he says:—"The 400 cross-cut has been extended 14 ft., and is now a total distance of 28 ft.; in the present end we have encountered ore, but not explored sufficiently to say what value it is." On the 26th he writes:—"The 400 cross-cut has been drifted 39 ft., all the distance in ore of very good grade; from this cross-cut a drift has been run in an easterly direction 20 ft., all the distance in good ore; this discovery being in virgin groundit speaks well for this part of the mine." On Dec. 3 he wrote:—"The new ore body in the 400 is opening out very well; it is already opened 60 ft. in one direction and 40 ft. in the other, with ore still standing on the sides; a rise has been started to explore the ore body, which is up 6 ft. in very good ore; as soon as convenient we shall start a winze to explore in depth. This ore body is undoubtedly a continuation of the ore bodies in the 600 level." If he be right in his opinion—seeing that this ore is some distance from the ore in the 600 if the two bodies are connected in anything like force—there is no doubt we have between this point and the 600 an enormous body of ore (Cheers.) Well, gentlemen, in order that I should be able to give you the very latest information to-day respecting this important find, we telegraphed to Mr. Probert to send the exact extent of the developments, and this is the answer received to-day:—"Chamber"—mark the word, it is "chamber" now—"Chamber opened 80 ft. by 35 ft. on the fourth level, under Tip-Top; ore followed upwards 45 ft."—Mr. Rickard, you will remember, stated they had started a rise which was up 6 ft.—"downwards 65 ft. at an angle of 70; pitch northerly." Well, gentlemen, what that may lead to, of course none of us can tell; but it is a very satisfactory find. We have always been under the impression that there was a large body of ore under the Tip-Top ground, and having struck it now, and opened it to such a large extent, I only hope, and I have no doubt, it will develope into a very large body indeed. (Cheers.) In our report we mentionedthat, when the recent discoveries had been properly opened out, we expected that the second large furnace would be started. I hardly expected that event would come about so quickly as it nas, for the second large furnace, I am happy to tell you, was started last Wednesday.

A Shareholder: Do you happen to have the week's run?

The Chairman: We will come to that presently. So much for the mine; now with respect to the furnaces. Since these have been rebuilt they have been doing most excellent work. For some time past we have been running only two. One large furnace has been kept at work smelting—the smelting proper, perhaps I might call it; the other furnace being at work for the refinery—that is to say, the ore which it smelts is charged to the refinery, and is smelted with the bye-products and drosses and other things. You will all know, I have no doubt, that we have in the mine an enormous quantity of what we call low grade ore—that is, ore not yielding more than $40 per ton. And, we cannot with the price of labour so high as it is in Eureka—for it is four times at Eureka what it is in England—we cannot at present smelt the ore at a profit, but by mixing it with drosses we can get a small profit from it, and it is useful as a flux, and by that means we make something out of it. I merely mention that because there have been several enquiries why we did not start a second furnace. Well, as a matter of fact, we have always had a second furnace running, but it has been employed on these low grade ores, and the other furnace has been kept at the smelting proper—smelting something like 600 tons per week. There are no such furnaces in existence on the Pacific Coast, nor, I think, in any other part of the United States of America, for a furnace to smelt, as that has done, 100 tons per day, or 600 tons per week, is something enormous. I may mention in connection with that, while I think of it, that the improvements made in the furnaces have enabled us to smelt the ore with a consumption of only 30 bushels of charcoal per ton of ore, whereas we formerly used 40, which is a saving of 25 per cent. on the consumption of charcoal alone, which is one of the savings effected by the improvements in the furnaces. Another and very important improvement is this—that it takes no more labour to attend to the ninety-ton furnace than in it formerly did the forty-ton furnace, so that in the item of labour connection with the furnaces there is a saving of something like 50 per cent. (Cheers.) Of course, you will have anticipated that some such economies as these must have been made, otherwise it would be impossible for us to show a profit of anything like 70,000*l*. in the half-year, for we all know that for a long period—for many months—the ore was of very low grade, not averaging more than $46 per ton, and if it had not been for economies of this sort we should not be able to show you the amount of profit we have. (Hear, hear.) Whilst speaking of the furnaces I must repeat to you a caution which we have from Mr. Probert, and that is this—that "although the second furnace is now started we must not expect too much from it at first." These are his words. Of course, the reason is this—that when a new furnace is lighted up there is always a certain amount of waste, and the smelters do not succeed in getting the full value out of the ore, as a good deal runs into the foundation of the furnace, and for some weeks we do not get the full value. Another reason is—that we are going to use coke principally for this furnace. We have a large quantity of coke (something like 5000*l*. worth), and we think it desirable that the coke should be used up with charcoal, but while we do that we also feel that the smelting will not be so advantageous as if we used charcoal alone. I mention this because I hope gentlemen will not expect that we shallget double the quantity from two furnaces that we are now getting from one. Now, as regards the refinery, we feel very strongly that it has been of immense assistance to us in realising this profit. (Hear, hear.) It has enabled us to do a good many things which we could not have done had we not had it. By separating the lead on the spot it enables us to send our gold and silver forward, as I have before explained at a previ us meeting, and it enables us to stack our lead at Eureka, and to keep it until we get a good price for it. Now, we have had something like 4000 tons of lead stacked there during the time that lead was so low. That was the policy either suggested or approved by the board; I forgot which now, but it was done in conjunction with Mr. Probert. We came to the conclusion that it would be far better for us to keep our lead whilst it was at such a low price—until we got a better price, and, as I mentioned before, we have got something like 25,000*l*. additional profit for the six months by adopting the policy of keeping the lead at Eureka and not sending it forward in the shape of crude bullion, which we must have done had we not the refinery to separate it on the spot. (Hear, hear.) There have been many improvements made in the refinery, which, interesting as they are, I do not care to weary you with. We have new crystalising pots, double the capacity of the old, holding 50 tons each; we have new melting pans to correspond, which hold 25 tons. These improvements all tend to one object, which is the economising of labour. Labour, as I before mentioned, is expensive out there, and it behoves us to economise in every way we can. By increasing the size of the furnaces, and by increasing the size of the crystallising pots, we lessen the cost of labour very considerably, and as we go on from time to time, gaining experience, I have no doubt we shall be able to make further economies. (Cheers.) As regards our law proceedings, I think I may say something about them, although the shareholders do not like to hear much about them, but I have very little to say, and what I have to say is, I think, satisfactory. You are aware that we have an appeal case pending against the decision of the Courts in San Francisco. That appeal case we expect will come on for hearing somewhere about May. We do not think it can possibly come on before. What the result will be of course we do not know. If we succeed so much the better for us; if we do not we shall just be where we are. The unsatisfactory part of the appeal is this—that pending the hearing the Eureka Company have been very busily engaged in working out the ore from the disputed ground; and, as a friend of mine wrote to me the other day, he says "Whatever the result is I think we shall never be able to administer any emetic strong enough to make them disgorge what they have got already." I fear it will be so, but we are advised by our leading counsel that we have right on our side.

Mr. Vallance: And law too.

The Chairman: "And law too," Mr. Vallance says; and that being so we shall do our best to obtain it. In the last paragraph of the report we speak of the experts and witnesses having given their depositions; I may mention the result of those depositions is this—that the total amount of ore removed by us, on what I will call, for the moment, their side of the compromise line, is, in round numbers, about 7000 tons—7000 tons of very low grade ore, not more than $40 ore. Now, supposing we do not succeed with our appeal, the utmost we shall be called upon to pay is the market value of these 7000 tons of low-grade ore, and we have affidavits in Court putting the value almost at *nil*. I do not like to commit myself to figures, but I think I may safely say that from 8000*l*. to 10,000*l*. would be the most we should be called upon to pay under the most adverse circumstances. Mr. Vallance reminds me that this evidence has been taken with the consent of the Eureka Company, and therefore that evidence is conclusive. (Hear, hear.) Apart from that there is another little matter which I had almost forgotten. We have a counter claim against the Eureka Company, for we found them at one time taking ore from our side of the compromise line—and rich ore too. (A laugh.) What that quantity is I do not know, but we have a claim; therefore from whichever way you look at the law proceedings we do not think we need make ourselves particularly uncomfortable about them. (Cheers.) Some of you who read the *Mining Journal* may have noticed the other day a letter which I sent to the editor, with a letter from our friend Mr. Purvis. I do not know whether you, gentlemen, know him, but Mr. Purvis, who has been a shareholder almost from the first, has, like many others, got uncomfortable in this way, that the mine had already yielded so much that he thought there could not be much more for it to yield. So, having to go to San Francisco, he made up his mind to pay a visit to the mine, and that visit was eminently satisfactory to him; and whilst it reassured him, as he states in his letter, I hope, and have no doubt, that his statement will be reassuring to many others who felt somewhat in the same way. I mention this because I have another letter from him to-day, from the Sandwich Islands, in which he says he is afraid he made a clerical mistake in his figures. Well, I thought so myself, and I took the liberty of introducing a query in his letter as to the correctness of his figures. However, it really amounts to nothing; but he asked me as a favour to take any steps I liked in setting matters right with the shareholders, as he does not want to lay himself open to the charge of exaggeration; he says in his letter—"If I have made a clerical error, try and get me out of the difficulty in whatever way you may judge best, as all I desired to say was that the idea of the mine being nearly exhausted is a fallacy." Therefore, be his figures right or wrong, what he says is that, having gone out there almost afraid that the mine was worked out, he has come to the conclusion that that is a fallacy, and it is that which he wanted, through me, to assure you, gentlemen. I have nothing more to say just at the present moment, but perhaps, by-and-bye, in the course of the discussion, questions may arise which I shall be very happy to answer. With your permission I will now formally move the adoption of the report.

Mr. Benjamin Broughton, deputy chairman, said: I do not know that I need take up your time by adding anything to what Mr. Hopkins has stated, but I cordially endorse the truth, as far as my knowledge goes, of everything he has said. I believe that our future is a most brilliant one. I believe that far from the mine being about to give out the prospects now are as encouraging as they were in years gone by.

The Chairman: More so,

Mr. Broughton: More so, in fact. I have great pleasure in seconding the the adoption of the report. (Cheers.)

The Chairman: Some gentleman asked me for the cable received to-day. I beg his pardon for not answering at the moment. The cable is—"Week's run 849,000 from 1074 tons; refinery, 833,000." That yield is rather low, but, when a fresh furnace is lighted it takes some weeks to get thoroughly warm, and we never get the full value out of the ore at first. That, I am sure, is the explanation of the low return. But I want you to look at the general returns of the year, or the half-year. In mining there are always vicissitudes; you have accidents to the machinery, or something or the other happening, and when that is telegraphed over there is a kind of scare got up, and the shares are depressed. I think that is a very weak way, it always strikes me, of looking at the thing Look at the general results. We have a large business of mining, smelting, and refining, and you must deal with the thing as a whole; and if, as we show you, we are making a profit of 60,000*l*. or 70,000*l*. in the half-year, that is a complete answer to any such fears. (Cheers.) My friend, Mr. Vallance, has got some very interesting figures here.

Mr. Vallance: They are facts.

The Chairman: They are facts; but this is not the meeting for accounts, and next meeting we shall have all the figures to deal with, and I think I may give you the assurance that they will be perfectly satisfactory to you. (Cheers.)

Mr. J. E. Sutton said that in the report the directors showed that they had made net profit to August 30 of 70,000*l*.; prior to that two dividends of 7*s*. 6*d*. per share had been declared, making together 45,000*l*., and leaving 24,000*l*. to bring forward. Had there not been any profit from August 31 to the present time which should have been divided amongst the shareholders?—The Chairman: You have understated it. The two dividends only took of that profit 40,500*l*., and the other we have all to the good; up to a very recent date it was principally in lead. We had 4000 tons of that stacked at Eureka, worth at the present price about 100,000*l*.; therefore, although the profit is made it is not all realised. As mentioned in the report, we sold 1100 tons of lead at 22*l*. per ton, and we sold another 1000 tons at 23*l*. per ton, and another 700 tons at 5¼ cents per lb., which is about 24*l*. per ton; of course, that money is now coming in.

Mr. Vallance: You made 75 per cent. by holding the lead.

The Chairman: What we shall do is this—adopt the principle which we laid down some time ago—we shall continue to pay a uniform dividend at intervals of three months during the year, and at the end of the year we shall see what surplus we have got, and consult your wishes as to what shall be done with the surplus. A surplus is a necessary thing, and it makes us very strong, and when you have money in the bank you can do as you like with it.

Mr. J. E. Sutton: But I suppose there will be a considerable surplus?—The Chairman: Well, if we make 120,000*l*., and divide only 80,000*l*., there will be a sulplus of 40,000*l*., and I expect to have that.

Mr. Bolton: I hope you will not divide it all.

The Chairman: Last year we divided 1*l*. per share at the end of the year, but it is difficult to anticipate that question. I think it is understood by the proprietors that whatever profits we make we go on steadily paying quarterly dividends, and when we get to the end of the year we shall see what surplus profits we have, and then will be the time to consider what we do with them.

The resolution for the adoption of the report and accounts was then put and carried.

A cordial vote of thanks was then passed to the Chairman and directors.

The Chairman: We are all very much obliged to you. I return you thanks for myself and my colleagues; it now only remains for me to wish you the compliments of the season, and I hope what has taken place to-day will not make the festive season less enjoyable to all. (Cheers.)

Mr. Staples: There is an absent gentleman who was formerly much villified, but who has proved the wisdom of the directors in taking his part; therefore, I propose that we give a vote of thanks to our friend, Mr. Probert, for the manner in which he has conducted the work and justified the directors in keeping him in his present position. I propose a cordial vote of thanks to that gentleman.

The Chairman: I most cordially second that. The vote of thanks to the directors of course included Mr. Probert, but I agree with our friend that he is entitled to a special vote of thanks. His is an onerous and difficult post, as we all know, and I think the results of his management are such as justify us in placing implicit confidence in him. (Cheers.)

The meeting then broke up.

ARUBA ISLAND GOLD MINING COMPANY

The ordinary general meeting of shareholders was held at the offices of the company, Gresham House, Old Broad-street, on Tuesday,

Mr. J. V. Smedley in the chair.

Mr. A. Mackenzie (the secretary) read the notice convening the meeting and the following report of the directors:—

The board submit for the approval of the members the audited accounts of the company for the year ending Dec. 31, 1878. With regard to gold mining operations, the board have to report that the Agency Company have already expended upwards of 14,000*l*., and propose expending still more capital in the general development of the work of gold mining upon the island. The Agency Company has, however, made no profit as yet, and, therefore, this company has nothing at present to receive under the working agreement between the two companies The board have good reasons for hoping, however, that the Agency Company will eventually become a commercial success, in which case this company will receive the proportion of net profits to which it is entitled under the agreement—one-fourth. As the shareholders are aware, a concession for the phosphate of lime upon certain parts of the island has been granted to Mr. C. B. Sewell, who, through his representative at Curaçao, is now engaged in concluding the necessary arrangements for giving effect to the concession. The rights of this company under their contract with Mr. Sewell have, of course, been reserved, and as soon as the business becomes profitable this company will receive the proportion of the profits to which it is entitled under its agreement with Mr. Sewell. Mr. E. J. Grant Dawson, one of the directors, retires from office at this meeting, and being eligible offers himself for re-election. It is necessary at this meeting to appoint an auditor for this year, and fix his remuneration, and also to appoint an auditor for the ensuing year.

The Chairman said: Gentlemen, as you are aware two of your directors are *ex-officio* directors on the board of the Agency Company, and as I happen to be one of them I am able to supplement the report which you have heard read with some particulars of interest to the shareholders. There have been many causes why the resumption of gold mining operations at Aruba has involved the employment of more capital than was expected. The machinery which had been so long in disuse was found to be in a much worse condition than had been represented. The result was constant breaking down and stoppages, which as everyone knows means greatly increased cost of milling. In June last the mining captain, Captain Bawden, and three other of the European employees, unfortunately died, and the development of the mines was suspended for a long time in consequence. During the past 18 months new boilers have been sent out, and much additional machinery also. Some ten shafts have been sunk, and some of them partially timbered. Upwards of 1700 tons of ore has been crushed, giving an average yield of 15 dwts. per ton. As in all the early stages of mining, the cost per ton has naturally exceeded the returns of gold, but when the mines are in a condition to commence stoping, and a larger supply of ore is available for crushing, there should be a respectable profit per ton. A new mining captain and other fresh employees are now upon the island. The chemist of the company, Mr. Joseph Lainson Wills, who has been on the island now nearly 12 months, in a letter written in October last says as follows:—"I have now made myself sufficiently acquainted with the resources of the island to be satisfied that it is a most valuable property, and any failure in obtaining handsome returns must be attributed to ourselves." I will now move the first resolution, which is, "That the report now read to the meeting and the audited accounts of the company to Dec. 31, 1878, be received and adopted."

Sir Charles Wingfield: I shall be pleased to second that. We have no funds at the present moment have we?

The Chairman: No; we have not. We are simply paddling in the old way, but with a live company ahead of us. That is the difference between our present position and what it was six months ago.

The motion was then carried unamimously.

Sir C. Wingfield proposed the re-election of Mr. Edward Joseph Grant Dawson as director.—Dr. Clarke seconded the proposition, which was carried unanimously.

On the motion of Mr. A. Chaplin, seconded by the Marquis of Tweeddale, Mr. James Ford was appointed auditor of the company at a remuneration of 50 guineas.—The meeting then closed with the usual compliments.

WHEAL GRENVILLE MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Tuesday,

Mr. R. W. Goold in the chair,

Mr. R. Mitchell (the secretary) read the notice convening the meeting. The accounts and agent's report (having been circulated amongst the shareholders) were taken as read.

The Chairman said no doubt the shareholders had been very considerably disappointed, as he himself had been, at the falling off in the returns during the past three months, but he was not sure that that had been an unmitigated evil, for the price of tin had not been so high as it was at the present time, and if they had sold a larger quantity of tin they would not have made a larger profit. Although there had been a falling off in the returns it did not follow that Wheal Grenville was worth one single shilling less than it was three months ago. when they expected that the sales would have been larger. The stopes had fallen off in the three months, and they were not now much better than they were six weeks ago; but it did not follow that this day six weeks they would not have improved. Indeed, there was a certain amount of evidence that they would, for the agent in his supplementary report of the 20th inst. stated that since his report of the 8th inst., which had been circulated amongst the shareholders as arranged at the last meeting, the 140 east end had improved, and was then worth 15*l*. per fathom; if it were valued now it would be at a rather higher price. Wilcocks's stope, in back of the 150 fathom level, had also imporved, and was now worth 15*l*. per fathom. The tributors' pitches were, on the whole, looking better, and Captain Hodges believed from the appearance of the mine that they would be able to increase the returns of tin during the next month. The whim-engine was in a bad state, and should be repaired without delay. So that, although they had ben somewhat disappointed, and he (the Chairman) had been to some extent a bad prophet in respect to the returns of tin during the past three months. he did not think there was much reason for disappointment, and there certainly was no cause to be discouraged or disheartened. Upon one ground they had great occasion to congratulate themselves. Three months ago he ventured to hazard the opinion that tin would reach 80*l*. per ton before the close of the present year, and that they would get 50*l*. per ton for their tinstuff. Hejwas very happy to say that the prediction which he had made had not been altogether ccrrect, for tin had gone nearer to 100*l*. than 80*l*. per ton, and they were getting from 54*l*. to 55*l*. 10*s*. for their tinstuff. The prices they were receiving were by no means equal to those that they should obtain; and he was quite sure that the time was not very far distant when they would have to take into consideration the great margin which was exacted from them and from other tin producers by the smelters. Somehow or another the tin producers would have to combine together, and endeavour to put into their own pockets some of the exhorbitant profit which the smelters were now realising. Nobody could say that the action of the smelters during the past three months had been for the good of tin producers, nor that the interests of the two classes were identical. The smelters were utterly opposed to them in every way, and it was only natural, perhaps, that they should be. He did not blame them, for if he were a smelter instead of a producer of tin he would probably do the same. About two months ago, when he was visiting the mine, spending a couple of days there, a telegram was received stating that the tin standards had been reduced 3*l*. per ton. They were about to sell on the following day, but he advised their manager to stock the tin; but within 24 hours of that time the smelters advised Captain Hodge and the other agents in the county that no reduction would be made, but that they would receive the same prices as they did before the standard was reduced. In the past three weeks the standards went down twice—2*l*. each time; but on Saturday last they came to the resolution that they would pay the same price for tinstuff as they had before the standard was put down. The smelters and those in London who were interested in keeping tin down worked simultaneously; if tin goes down in London the standards are lowered at once, but if tin goes up in London the standards are not advanced for some time, as it might not be convenient for the smelters to meet and decide too quickly. He thought tin producers would ultimately know whether they were getting fair prices for their tinstuff, and if they thought they were not then to combine together and adopt some means of remedying the grievance. The smelters used to be contented with a margin of 9*l*. per ton, but they were now getting 13*l*., and their action was selfish in the extreme, when it was remembered that the greatest sufferers were the men who produced the tin for the mine owners. For his own part, he was more delighted with the rise in the price of tin because of the improvement which it brought about in the position of the miners, who had been barely existing during the past four or five years of great depression, than because it improved his prospects as a shareholder. (Hear, hear.) He thought the men ought to be the first to benefit, the shareholders the second, and the smelters the third. (Hear, hear.) The company had liabilities which were apparently pretty large—about 3000*l*. (2816*l*. 1*s*.)—but 1100*l*. of that was for lords' dues. That matter had been freely discussed at their meetings, and it had been decided to pay off this debt by instalments, the third of which was due. The actual liability was, therefore, reduced to 1625*l*., and it would be within the remembrance of the shareholders that this had accumulated not through any neglect on the part of the committee, but owing to the spontaneous offer on the part of the merchants who supplied them with coal to give them six months credit, if the contract were given to them for twelve months. That contract was granted, and had been renewed, but he was of opinion that there was a great disadvantage in owing a coal merchant such a sum as that. With repect to the matter of making a call or not, a 2*s*. 6*d*. call would give them 750*l*., and a 5*s*. one 1500*l*., and he might mention that so well had the previous somewhat heavy calls been met, that only 17*l*. 15*s*. was now outstanding for arrears. The 54 tons of tin sold in the 12 weeks realised 2763*l*.; but it should be remembered that the first of the sales after the last meeting realised only 40*l*. per ton, whereas they were now getting 54*l*. or 55*l*., and he believed the price would still further improve. The sale to-morrow (Wednesday) would be of about 18 tons, and he thought he might very safely predict that they would get 25 tons each for the following two sales, which would raise the three months' sales to 70 tons. At 55*l*. per ton that would give them an average of 1250*l*. per month, while their costs would not be more than 1100*l*., leaving a margin about sufficient to pay the instalment of the dues in arrear. He firmly believed the era of their distress had passed, and that 1880 would be a very remarkable year—a year of a character only seen once or twice in a generation. He believed there would be a revival of trade all over the world, and that the effect of such a revival would be to utterly banish the opinion expressed in some quarters that England had reached her zenith—he did not believe she had for a moment. During the past few years of depression and prostration many mines had gone out of working, and could not be re-opened for some time, and he believed that the importations of tin from Tasmania and Australia next year would show a falling off. Tin had steadily advanced in prices, and when the price had receded it had been entirely for speculative or smelting purposes. It was for the shareholders to decide whether they should remain in debt for a time, or make a call to reduce their liabilities. The Chairman expressed the hope that before the next meeting they would have reached the 180 fm. level, and then moved the adoption of the accounts and agent's report.

Mr. W. Bellingham seconded the motion, and it was carried unanimously.

Mr. Waddington, in seconding the resolution, remarked that he believed the tin stocks this month would show a reduction of 600 tons. Orders from America for tin-plates received last week would have given the tin-plate workers six months' work, but the offers were not accepted as the tin had not been secured, and the work might have been done at considerable loss, while they would not have been able to take any benefit from any rise in tin during the next half-year. He believed that tin would go up 10*l*. a ton for the producer before long.

The Chairman also referred to the large increase in the tin-plate trade, and to the re-opening of several works.

Capt. Hodge, in reply to questions, said the coal merchants allowed them 10*l*. off the first month's supply of coals, and with regard to the driving, said the men had worked so well that they would have beaten the boring- machinery in the six months if they had not met with hinderances.

On the motion of Mr. Waddington, seconded by Mr. Heritage, a call of 5*s*. per share was made, and the meeting then closed with the usual compliments to the Chairman and committee.

THE HUNTINGTON COPPER AND SULPHUR COMPANY.

The Chairman and directors of this company have issued the following circular to the shareholders:—

As six months have to elapse before the ordinary general meeting of the company takes place, the directors think it right to inform the shareholders of the result of Mr. Gray's late visit to Canada. They have much pleasure in being able to report that, after the most careful consideration, they have arranged with Mr. Huntington for $27,500 in settlement of the claim against him, this sum to be paid in two years from Aug. 1, 1879, with interest at the rate of 6 per cent. per annum, payable half-yearly. Satisfactory security has been given for said payments. Mr. Gray also arranged that a small portion of one of the lots which he considered of value to the company should be conveyed to it by Mr. Huntington, or a further payment of $2500 made in lieu thereof upon Aug. 1, 1881. An arrangement has also been made with Mr. Alexander M'Ewen, who happened to be in Canada at the time, by which he has agreed to make five annual payments

of 700*l.* stearling each—first payment on April 30, 1880—with the proviso that such payment should not be made in any year in which the company should pay a dividend of over 6 per cent. upon the present paid-up capital, these payments to be towards the working expenses of the company. Encouraged by the success which has attended the process of smelting our ores, and the production of ingot copper referred to in former reports, Mr. Gray, on consultation with Mr. Thomson, the manager, and Capt. Whyte, the agent at the mines, arranged for the further development of the lodes, and the putting of the works into a state to efficiently treat the output. The directors, considering it advisable to ascertain beyond doubt the ability of the company to work at a profit, have approved of the arrangements made by Mr. Gray, feeling assured that nothing will be wanting on the part of Mr. Thomson and Capt. Whyte to bring the operations to a successful issue. A further point in favour of the company is the advantage enjoyed by them owing to the high import duty now levied on copper entering Canada. The directors have every reason to be satisfied with the manner in which Mr. Gray conducted these important matters, and they believe that the result will be satisfactory to the shareholders.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—John Roberts, Dec. 23: The great stopes are continuing for blende just as for some time past. The lode in the stope on the shale is worth 2¼ tons of blende per fathom. We are cutting through the lode here at the point we made a communication, so as to have a longer stope. The rise above the No. 2, on the shale, is without any change. The valley cross-cut 15 now being pushed on by four men. There is no change, only the ground is a little easier for driving. I hope that we shall be able to re-start the dressing in a day or two.

BETTWS-Y-COED.—C. J. Sims, Dec 24: The lode in the 30, east of flat-rod shaft, maintains its value (1 ton of lead ore per fathom), and is looking well for a speedy improvement. In the 30, west of flat-rod shaft, we have put the men to cross-cut north; we have not yet reached the hanging-wall, but have passed through in about 6 ft. drivage several strings or faces containing lead, and there is a quantity of water issuing from the forebreast, leading us to expect more lode in this direction. The deep adit level driving east has improved since we commenced to drive, and there is now a branch of blende in the end; we shall I calculate have to drive several fathoms here, however, before we reach the orey part of the lode gone down in the bottom of the shallow adit level. The stopes maintain their average value. The dressing is now going on all well, and all the machinery is working satisfactorily, We have completed the covering in of the dressing-floors.

BLUE HILLS.—S. Bennetts, P. Vian, Dec. 20: The lode in the 42, east and west of Blue Burrow shaft, although producing a small quantity of tinstuff, is not of much value. In the 30 east end it is 2 ft. wide, and worth 20*l.* per fathom. The tribute pitches are somewhat improved during the past month.

BODIDRIS.—H. Hotchkiss, Dec. 22: The mine throughout is much the same as when I wrote you last. The lead ore in the 17 east is becoming more confined towards the hanging side of the lode again, and will produce about the same quantity per fathom—2½ tons. Full report next week.

CLEMENTINA.—J. Roberts, W. Sandoe, Dec. 23: The north end at the bottom of the engine-shaft has got full of stuff caused by the short supply of water for drawing, and consequently we have put the men to stope in the roof of that level, where there is a very nice lode for lead, worth 15 cwts. to the fathom. For the above reason the south end is suspended, and we have put the men to-day to rise in the bottom of the 25 on the north and south lode. The stope on the east and west lode at the 25 is much the same as for two or three weeks past. The end driving south on this lode contains small branches of lead, but the lode as yet rather unsettled.

COMBMARTIN.—T. Comer, Dec. 23: In the winze sinking below the 12 we have intersected Harris's cross-course, which has greatly increased the water. In consequence of this we have suspended the sinking. The other parts of the mine are without change to notice since last reported.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, Dec. 23: The result of our workings upon the ore reserves in the 66 has been very satisfactory, and we can now employ more men to strip the lead down. The 112 east main lode continues to open out and looks well. No other change.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, Dec. 23: Judging that we have driven a sufficient distance to intersect the Cobbler's lode, and having passed through two small lodes, it may be that we have cut the lode in a pinched place, we have put the men for a few days to open on these to see if they will improve. We will advise you in due time of any change.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, Dec. 23: No. 2 adit is looking very much the same as it has for some time—a wide lode, with a good branch of lead on each side. At No. 5 the lode continues as good at the deepest point as we have seen it at all. We have here two points of operation—the sinking of the sump and stoping from the sump towards the Gors shaft. We are carrying the sump 12 ft. wide, and are still leaving a part of the lode to stand in the footwall. We estimate the value of the lode at the size we are carrying it at 5 tons per fathom. The upper portion of the stope is not quite so valuable as the bottom, but it is quite necessary that we should take away the ground in order to make room for breaking the richer part of the lode and for lengthening the stopes towards the Gors shaft. The lode here, in the same level as the bottom of the shaft, is equal in value to the shaft. We are cramped very much in our dressing operations owing to frost and drought.

DERWENT.—John Morpeth, Dec. 22: Setting Report: Jeffries' Shaft, Middle Vein: The 95, 86 fathoms east of shaft, is composed of limestone, quartz, white iron, and lead ore, yielding of the latter 15 cwts. per cubic fathom; vein 7 feet wide. No. 1 stope in the back is 5 ft. wide, worth 16 cwts. ore per fathom. No. 2 stope is 4 ft. wide, and yields 13 cwts. ore per fathom. The flats on north side of vein produce 18 cwts. per cubic fathom. West of this shaft on middle vein No. 1 stope in the back of the 93 continues poor as yet, but will improve shortly; at present it is not worth more than 8 ewts. of ore; vein 2 ft. wide. No. 2 stope is 3 ft. wide, worth 14 cwts. ore per fathom. No. 3 stope is 4 ft. wide, worth 20 cwts. ore per fathom. No. 4 stope is 2 ft. wide, and yields 11 cwts. ore per fathom. Nos. 5 and 6 stopes are each 3 ft. wide, and produce 12 cwts. ore per fathom each. —Sun Vein: The 70 on this vein, 40 fathoms east of shaft, is 2 ft. wide, and produces 8 cwts. ore per fathom.—Westgarth's Shaft, Middle Vein: Upon this vein, east of shaft, over the 93, seven stopes are set, whose respective values are 15, 20, 8, 20, 24, 25, and 14 cwts. per fathom; average width of vein, 4½ ft. The rise over the 93, 48 fathoms east of shaft, is up to within about 2 fathoms of the top of the great limestone sill, and being hard at present we have suspended it with a hope that as we stope east and west of the rise we may get into easier ground, when we shall have an opportunity of rising to the top of the sill at much less expense. The 74, 215 fathoms west of shaft, is still in shale at the division of the high and low coal sills, and is by the side of the vein. Machinery all working very well at present, except a few little things on the slimes dressing-floors, which are standing, owing to the frozen condition of the fine slimes.

DUBBY SYKE.—W. Vipond, Dec. 20: There is no change that I can see of any kind in the sinking here. The vein or branch is perhaps a little narrower. The water is just as it has been.

EAST ROMAN GRAVELS.—Arthur Waters, Dec. 24: The lode in the 90 fm. level, going south of boundary engine-shaft, is in two divisions, the matrix being good-looking carbonate of lime with stones of soft galena of a promising character. The lode in the 86 south is improving, now worth ¾ ton per fathom. The pitch in back of this level is worth 1 ton per fathom in a strong wide vein. The 75 south is still worth 1 ton per fathom. The various tribute pitches at and above the 75 are all yielding ore quite up to valuations given in last week's report. We have to-day sold 30 tons of lead ore.

EAST WHEAL LOVELL.—Richard Quentrall, Dec. 24: The lode on which we are sinking in Sevorgan is all the width of the shaft, and worth for its length 12*l.* per fathom. We put the water-wheel to work on Saturday last. It is working admirably, and will effect a considerable saving in the cost.

GAWTON COPPER.—George Rowe, George Rowe, jun., Dec. 20: The lode in the 117 east is still showing a very kindly appearance, with sulphur and arsenical mundic, mixed with good quality copper ore. The lode in the 105 east is carried 6 ft. wide, yielding arsenical mundic and ore; worth 6*l.* per fathom. The lode in stopes in bottom of the 105, east of winze, is worth 12*l.* per fm. The lode in the stopes in the bottom of the same level, west of said winze, is worth 13*l.* per fm. The lode in the stopes in the back of the 105 is worth 11*l.* per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, Dec. 22: The new lode south, in the 102 east, is a little disordered by a horse of granite, but still a fine-looking lode, and worth from 12*l.* to 15*l.* per fathom, letting out a good deal of water, which makes it rather slow for driving. The ground by the lode, however, is favourable. This is a very important point in the mine, as we are pushing it on as fast of possible, and expect an early improvement. No change in the 102 east, on the north lode. We shall now commence cutting tipflat at this level, preparatory to resume sinking the engine-shaft, so as to see this lode at a deeper level with as little delay as possible. No change of importance in the 90 west, on north lode. The 90 east, on south lode, is worth 6*l.* per fathom; winze on this level worth 8*l.* per fathom. The stopes and pitches, on the whole, are about the same value as last reported. We are pushing on the dressing of ores for the next sampling, which will be about the usual quantity. Particulars next report.

GORSEDD.—W. Edwards, Dec. 23: In the 70 east the vein improves, and is worth about ¾ ton of lead to the fathom; the ground, however, continues hard. The tribute pitches are looking about the same as previously reported. The 60 east is now cleaved to the forebreast, and there is some very nice lead coming in sight. The frost has delayed us much with dressing this month, but we have a good pile of stuff in preparation.

GREAT RETALLACK.—J. Harris, Dec. 20: The ground in the shaft is a little easier for sinking, the killas containing less quarts than when last reported, and the men are making better progress, and I am expecting to meet with the lode daily.

GREAT LAXEY.—W. H. Rowe, Dec. 23: The ground has improved for sinking in the bottom of Welsh shaft, now over 8 fms. below the 247, and should nothing occur to cause any unusual hindrance it should be deep enough for a new (or 260 fm.) level in less than two months from this date. After squaring the ground where the 347 north met the driving south of winze, this level is now being driven northwards beyond it, and into what we expect to find a continuous run of ore ground for a good length. Although there is still a powerful lode in the 235 end south it is not so much spotted with ore, or so congenial as it was a month since. We are proving the lode at one or two points at this level between the engine and Welsh shafts, which so far show fair promise of blende. The new winze commenced in this level north is sinking on the hanging part of the lode, and worth 55*l.* per fathom. The lode in the 235 end north is just at present of a coarser character, and not of much value for ore. No. 1 stope in roof is worth 35*l.*, and No. 2 15*l.* per fathom. The 220 end north is fast getting clear of the nip, and the lode opening out again. A winze in this level is worth 40*l.* per fm. No. 1 stope in roof is worth 40*l.* per fathom; No. 2, 40*l.*; and No. 3, 17*l.* per fm. The 210 end has intersected the slide, and is now being driven eastward parallel with it upon a branch of ore worth 20*l.* per fathom. The stopes above this level and the 200 average in value 20*l.* per fathom.—Dumbell's: The cross-cut westward at the 230 has not yet cut the lode. The rise in the roof of the 215 north has again improved, now worth fully 50*l.* per fathom. The lode in the 200 end north is worth 80*l.* per fathom. A stope in the sole of this level south is worth 30*l.*, and in roof 30*l.* per fathom. There is no particuler change in any of the drivings or stopes in this direction above this level since last report, except a still further improvement in the 35 end north, where the lode is at present worth fully 100*l.* per fathom. Air pipes are being laid as quickly as possible to get a drill to work at this important point.—Middle Ground: The rise in the roof of the 110 is worth 25*l.* per fathom, and the driving north of it 20*l.* per fathom. —South Ground: A rise in the roof of the 165 south is worth 18*l.* per fathom. A winze in the 145 is worth 30*l.*, and a stope above the 100 fm. level 65*l.* per fm.

GREEN HURTH.—W. Vipond, Dec. 19: Swan's Shaft: The men have made a little better progress in this during the week; I do not think there is any abatement of the water yet. We have a strong north and south thing running through the west end of the shaft; we only see it in the top part of the limestone yet, it evidently has the same lade as No. 1; whether it is it or a part of No. 1 only I cannot say.—Vipond's Sump: The end of the 30 south from this is getting very hard, with less ore. I do not think it is yielding more than 4 tons of ore per fathom at present. The men are taking off the hard rider on the west side to see if there is anything better lying near to us, but have not seen anything yet. The north end of the 30 continues to yield 1 ton of ore per fathom. The vein appears split up at present, soft fampy veinstuff in the western branch, or in the eastern one, with a large horse of limestone between. —Robinson's Sump: The driving south from this is unchanged; there is no ore in it. We can hear the men working very distinctly in the north end, but I think there may be 3 or 4 fms. yet between the two ends. The ore is now going off again. I shall advise you when the parcel is delivered.

GUNNISLAKE (CLITTERS).—W. Skewis, John C. Seccombe, Dec. 17: The lode in the 224 east is again met with east of cross-course, and producing good stones of copper ore. In the western end of this level the lode is worth 6*l.* per fathom. The lode in the 212 east is poor; in the western end it is worth 8*l.* per fathom. The lode in the rise in back of this level is worth 6*l.* 10s. per fathom. In the 200 east the lode is considerably increased in size, being now 8 ft. wide, and worth from 5*l.* to 6*l.* per fathom—a very fine looking lode; and we think that the driving of this level will result in making good discoveries of copper ore, and in such case it is in whole ground to surface, there being no end driven so far as this one is, and we have still more than 200 fms. to drive to reach the eastern boundary. The lode in the winze sinking below this level, west of shaft, is worth 6*l.* per fathom. The 188 east is in a cross-course. In the 188 cross-cut south the men are put to timber in their ground, so as to make things secure. The lode in the 176 east is worth 7*l.* per fathom, and in the rise in back of this level it is worth 6*l.* per fathom. The stopes and pitches are looking much the same as they have been. The new jigging machinery will be finished and in full work in the beginning of next week.

HINGSTON DOWN.—T. Richards, Dec. 23: The lode in the deep adit levels east and west of the south cross-cut continues to produce rich stones of copper ore. The sinking of the shaft from surface and the cutting of ground for the rise against the shaft are progressing favourably. We shall commence rising in a few days.

KILLIFRETH.—John Michell, Dec. 24: We have not taken down any lode in the shaft since our last report; it is now 10 fms. below the 80. We have 6 ft. more to sink, when we shall take down the lode, and also drive east and west on the same; and, judging from the appearance above, we ought to have a productive lode in the 90 fm. level. The lode in the 80 east is 4 ft. wide, producing low quality tinstone. Having holed the rise in the back to the 70 we shall now stope each end of the same. We have just commenced to sink a winze below the 80, under the rise; the lode is worth 6*l.* per fathom. In the 70, driving east, the lode is large and very wet, but at present unproductive. I find the adit level is driven 200 fms. west of our engine-shaft on this lode for the last 100 fms. drivage, which is west of the cross-course, it is from 2 to 5 ft. wide, composed of a beautiful matrix, with occasional small bunches of tin, but for want of ventilation, and the depression in mining, it was suspended. We are about to resume operations by sinking a new shaft from surface to take the lode at the adit level about 6 fms. behind the present end; and from the appearance of the lode about this place, also being parallel with the richer bunches of copper and tin in the Unity Wood and Great Busy Mines, also getting near the junction of the killas and granite, I have every reason to believe we shall meet with an equal success in a very few fathoms below the adit level.

LADYWELL.—A. Waters, Dec. 24: The lode in the adit end going south of new shaft continues to yield good solid orestuff, the width of vein being about 2 ft. wide, and the rib of lead ore, 3 in. of nice-looking soft galena. The country rock shows more stains of the oxide of iron than of late, and I am expecting to see softer ground and a more productive lode shortly. The 20 south above adit is now turning out some small nuggets of solid ore, and looks like improving. There is less underlie in the lode here than formerly. The tribute pitch in back of the adit north of ofd shaft is yielding some good leadstuff.

MONYDD GORDDU.—J. Green, Dec. 24: I have the pleasure to report that all points of operation have been pushed on with vigour during the week with the following satisfactory results:—The lode in the 34 west has improved in character, and carries a branch of orey stuff, worth 15 cwts. per fathom in ground favourable for progress. No. 2 stope, in back of this level, is suspended for a time, as previously reported. No. 1 stope is worth 1½ ton of lead and 1 ton of blende per fathom. The cross-cut north is now driving on a caunter branch, which is embedded in a beautiful matrix of light-blue killas and lime-spar, worth 15 cwts. of good quality lead ore per fathom—ground spare for driving. The 24 west has improved—worth 1½ ton of lead, and 1 ton of blende per fathom; the lode is hard and wet, which makes it difficult for progress. The rise over winze in this level has struck a great cavity. I have to-day been in upwards of 5 fms., and it appears to extend many fathoms further—the sides are principally composed of a coarse crystallised quartz, and there is a nice branch of lead ore at one point, worth ½ ton per fathom, on which we shall continue the rise. The winze sinking below the 12 is not looking so well for lead—the ore course at the bottom (8 fathoms below the 12) taking a rapid underlie south. We will push on the sinking to the 24, and then strip the ore down. The stope over the 12 is looking well—the lode is hard and sparry, worth 25 cwts. of rich quality lead per fathom. The men have completed the stull, and stoping will be carried on regularly now. I have put two men to drive a trial level on a cross branch running parallel to the south caunter lode, at a distance of 15 fathoms west of same. We drove 2 fms. on it some months ago, and there is a nice branch of ore in the forebreast now—it may lead to a discovery. You will notice by the foregoing that we have eight points in operation, yielding according to present appearances in the aggregate about 7 tons of lead and 2 tons blende per fm., or a money value of 120*l.* This is very cheering, and I hope arrangements will soon be made for sinking the shaft, as I am confident we shall meet with even better results as depth is attained. We have had a slight thaw and a small supply of water yesterday, but not sufficient to do much duty on the dressing-floors. I am glad to see by your telegram just received that Messrs. Goodhart are the purchasers of the lead at 16*l.* 0s. 6d. per ton, which is an advance of 2*l.* 7s. 6d. on last sale.

NEW BRONFLOYD.—Thomas Kemp, Dec. 23: No. 3 Shaft, North Lode: The part of the lode carried by the 121 end, west of winze, is without any particular change to notice since last report, principally killas, and at times showing nice patches of lead ore; ground hard for opening. The stope over this level, and to east of winze, is now in excellent working trim, and the men have commenced stoping the lode, which is turning out some good ore, and from appearances they will break a good pile of ore in the coming two months. The stope to the east of shaft, under the 52, is equal in value to last report, worth 1½ ton of ore per cubic fathom, but the lode is exceedingly hard for breaking.—Middle Lode: The part of the lode opened on by the 73 end, west of No. 2 cross-cut, is composed of killas and spar, carrying strings of ore, now worth 10 cwts. per fathom (for the width of the level, 5 ft.), although the breast of level at the present time is not very productive, but still it has a strong and healthy appearance, and may again in a short time prove as rich as ever. The lode in the intermediate level to the west of winze, under the 52, is principally spar, spotted with lead and copper ores; ground unfavourable for progress. We have during the last three weeks been busily engaged in repairing the crusher, jiggers, &c., which work is now in a forward state, and will, I expect, be completed in three or four days, and so soon as we have a change in the weather we shall commence dressing, and every effort will be made to sample 25 tons at the earliest date possible.

PANDORA.—H. Nottingham, Dec. 23: New Lode: In the 33, driving south, the lode in the end is looking better; we have been getting some very nice lumps of lead in cubes along the bottom part of the level, and some very good blende.—Goddard's Lode: The 33, going south on this lode, has very much improved, the end being now worth 15 cwts. of lead to a fathom; this has come sooner than we expected to have lead in this driving.—Engine-Shaft: We have now cut down the west side of the shaft to bottom, making room for tackle, &c., clear of the lodge and tramway, which has to cross the shaft; we are now making room for cistern, &c. I have suspended the stopes till we can get the levels and places cleared of stuff, the mine being very full of stuff. We shall resume the drawing to-morrow, and commence crushing at the same time. Our crusher and jiggers are now just as good as new. We have put in new rolls and brasses to crusher, new wheels for driving jiggers, and new sieve bottoms throughout. The weather is still dry, but showing signs of rain to-day. We have but a small stock of water, but intend going with it as far as we can.

PANT-Y-MWYN.—E. Parry, Dec. 24: The mine is quite equal to previous reports, and fair progress is being made in each department. Full particulars next week.

PATELEY BRIDGE.—C. Williams, Dec. 23: There is very little change in the appearance of the mine since my last advice. The vein in the 40 east has improved a little, worth now 2 tons 5 cwts. of lead ore per fathom. Fielding's vein in the 20 north-west is worth 2 tons 10 cwts. of lead ore per fathom. All other points pertaining to the development of the mine are progressing favourably. Dressing and smelting pig-lead going on regularly.

PENHALLS.—S. Bennetts, P. Vian, Dec. 20: The lode in the 70 east end is producing some tinstuff, but is small; the ground, however, about it is more promising, and contains some small veins of tin. The 48 west is worth from 4*l.* to 5*l.* per fathom. The north lode in the 50 east is small and unproductive, and the same lode in the 30 east from same cross-course is also small, but containing some tinstuff. The tribute pitches are without much change.

PENNANT.—Dec. 23: The various stopes continue their usual produce, and we are busy upon the dressing-floors.

ROMAN GRAVELS.—A. Waters, Dec. 24: The 125 cross-cut, east from new engine-shaft, is driven about 2½ fathoms, and the end is now over 4 ft. into the Roman lode, at which point it and the caunter lode are in junction. I expect the Roman lode to be of great width there, and that we shall have productive ground upon it. The matrix of both lodes is of the kind we like to see, and good orestuff is being broken as the drivage advances. The 110 north is worth 1 ton per fathom. The stope in back of this level, ou the hanging side of the lode, is worth 3 tons per fathom. The 110 south is now up to a wider lode, and will improve in value as we go forward. The 95 south is up to where the Roman lode makes a great split, and south of which (as was the case in the 65 and 80 fm. levels) the great south run of ore will be found. We shall drive on the footwall portion, which is at present worth 2 to 2½ tons per fathom, and strip the lode to the full width as the stopes advance after the forebreast. We are cutting a winze plat in the said 95 for the purpose of sinking a winze in ore ground 15 fms in advance of the present 110 end. The 80, south of Betton's winze, south of shaft, going forward on the hanging side of the great lode, is worth 1½ ton per fathom. We have good orestuff on the footwall of the lode, but this portion will have to come down by the stopemen in regular order. The stopes in back of the 80 are looking well. The 65, south of Betton's winze, south of new shaft, is now up to another split in the Roman lode, the hanging-wall division being worth about 2½ tons and the footwall portion 1¼ ton per fathom. We are necessarily leaving lode-stuff on either side of the drivage here, which will have to be cut into and proved as we stope forward in course. We have been continuously driving the said 65 since November, 1876, and the end was 50 fms. south of old shaft cross-cut when we started, and it is interesting to be able to say that the lode has been profitable throughout. The stopes generally are producing ore in their usual quantities. We have the new winding-engine ready for work, and the guide-rods are being cut, cage and wagons being made, and no time will be lost in getting the whole of this work into a focus. The frost is still severe.

SOUTH DARREN.—Henry James, Dec. 23: In the 110 drivings the lode still holds encouraging appearances, though of a very hard nature, and stiff for progress; this generally indicates a good deposit of ore. All other points—without any particular change—are being pushed on with energy, and look favourable. The machinery is in good working order, but the supply of water is very small.

SOUTH DE ERESBY MOUNTAIN.—W. Bennetts, Dec. 22: The lode in the engine-shaft is looking more promising to-day than I have seen it for some time past, and judging from the appearance of the lode to-day we may expect a good improvement. No. 2 shaft, in the bottom of No. 2 adit, is looking much better than was stated in last week's report. The mundic then referred to has again given place to good lead.

SOUTH WHEAL CREBOR.—J. Goldsworthy, Dec. 22: In cutting the cisterna-plat we met with branches which contained rich stones of copper ore, and which are droppers on the lode. The caunter lode produces rich stones of ore.

TANKERVILLE.—A. Waters, Dec. 24: The lode in the 220, west of Watson's shaft, is 3 ft. wide, worth 1 ton per fathom. A considerable quantity of water comes from this end at present, and I am looking for another cavity, which will be the sign of our entering the western bunch of ore. The 220 east looks like getting near the end of the present cavity, and the lode is more compact and regular than of late. The ore course on the hanging side of the lode is worth quite 3 tons of rich lead ore per fathom, altogether a splendid looking vein. The four stopes in the back of this level are worth together 8 tons per fathom. The stope in the bottom of the 206 west is worth 2 tons per fathom, and this run of ore looks like making on the north side behind the 206, and behind the old stope from that point to the 192. We shall prove this matter in due course. We have suspended the 206 west for the present, and put the men to cross-cut north by way of trial. Other points and pitches here are just as when last fully reported on.—Pump Sump: The lode in the regular line of the sump is worth 1 ton per fathom, but we shall soon be deep enough for a 26 fm. level, and hope when we come to drive east and west that good stopes will be opened out. The shaft from surface makes good progress, and the winding-engine with pumping gear nearly ready for work.

TEESDALE.—J. Slack, Dec. 18: West End Forehead: Very little more has been done here since my last report, the men having been taking out to the dressings. I think there is a little improvement in the quantity of lead ore, though not such as to make any special note about.—West End Stope No. 1: I cannot say there is anything to note of any consequence in this working; the amount of ore is the same as it has been for many weeks.—West End Stope No. 2: There is a little further improvement in the bottom part of this working; one shot has blown into a good sized lough hall or vacant place, which was full of ore. We riddled down with a scraper a quantity of fine bouse (fully 1 cwt. of lead ore in it); loughs are favourable features in most of veins. Dressings are on again in full swing. Nine bings of lead ore were sent to Middleton to-day (Thursday), completing our last sale of 27 bings to Messrs. Dinning.

WEST HOLWAY.—A. Rowland, Dec. 23: We shall have the pithead over the shaft next week. We are busy preparing for the engine, and to-day have been fetching the winding-drum, so that no time has been lost. Our progress very good.

WEST KITTY.—Wm. Vivian, Dec. 20: I beg to hand you the following report of the mine, with cost-sheet. We are making good progress in driving different levels. The lode is looking quite as well as we can expect for the short time we have been at work. In the 72, driving east, the lode is 3 ft. wide, producing rich stones of tin. From the appearance of the lode I am hoping we shall shortly get into the Wheal Kitty rich course of tin left off at our eastern boundary. We have also a very promising lode at the 72, driving west, producing good stones of tin. We have not yet broken down any part of the lode at the 84, driving east, but hope to do so next week. Our pumping and winding-engines are working well. We have not any let or hindrance since we commenced to work.

WEST PATELEY BRIDGE.—David Williams, Dec. 23: The 67 north-west is extended from shaft 35 fms.; the vein in the end is fully 2 ft. wide, and producing stones of lead ore. The vein in the 67 south-east is still hard and spare for driving. The vein in the 56 north-west, upon the new vein, is 2 ft. wide, and worth 5 tons of lead ore per fathom. Other points much the same as reported in my last. Grating and dressing are vigorously proceeded with, and we are daily carting lead ore to the mill, and will commence smelting a parcel of lead ore the beginning of next week.

WEST WHEAL PEEVOR.—W. T. White, Dec. 20: Setting Report: The cross-cut driving north at the 35 is now in from shaft 10½ fms., the men having driven 8 fms, during the last four weeks. We are daily expecting to cut the lode, which we trust will be productive. We shall commence to sink the engine-shaft below this level again next week. The 25 to drive west at 4*l.* 4s per fathom; this is opening up ground that will pay to stope. Winze to sink in the bottom of the 25 at 6*l.* per fathom; this winze is down 7½ fms. below the 25, and indications (of the No. 1 branch we opened on at the 25) of its coming in with the lode is now making itself in the south wall of the winze; this lode looks well for the 35 cross-cut coming in under. We also set a pare of men to rise and stope in the back of the 25, west of cross-cut, at 2*l.* 5s. per fathom: the lode is not large, but produces some good tinstuff. The prospects altogether I consider to be very good indeed.

WHEAL CREBOR.—John Andrews, Dec. 23: The lode at the 120, east of cross-cut, is still worth 100*l.* per fathom. West of cross-cut, at the same level, the south part of the lode has fallen off in value, consequently the lode for the whole width is worth now only about 60*l.* per fathom. The lode in the 108 east is looking very encouraging, and is now yielding a little saving work for copper ore. The stope in the back of the 108 is worth 15*l.* per fathom. The new lode in the 108, east of cross-cut, is worth 25*l.* per fathom. The new lode in the stope in the back of the 108 is worth 35*l.* per fathom. The 72 and 48 ends are without change. The new shaft will be completed to the bottom of the 48 in the early part of next week, when we shall commence to cut plat at that level.

WHEAL PEEVOR.—W. T. White, J. Pryor, Dec. 20: Setting Report: The sinking of the engine-shaft below the 80 is progressing very favourably. The 80 to drive west at 6*l.* per fathom; lode worth 43*l.* per fathom. The 70 to drive west at 6*l.* 10s. per fathom; lode worth 18*l.* per fathom. The cross-cut to drive north at the 70, west of cross-course, at 5*l.* per fathom. The 70 to drive west on the north lode at 3*l.* 10s. per fathom, producing low quality tinstuff. The 60 to drive west at 5*l.* 5s. per fathom; lode worth 18*l.* per fathom. The 48 to drive west at 7*l.* per fathom; lode worth 11*l.* per fathom. The cross-cut to drive north at the 48, west of cross-course, at 6*l.* per fathom. The 36 to drive west at 4*l.* 10s. per fathom; lode worth 33*l.* per fathom. A winze to sink in bottom of the 36, on middle lode, at 6*l.* per fathom; lode worth 10*l.* per fathom. The 26 to drive west at 4*l.* 15s. per fathom: lode worth 20*l.* per fathom. The rise in back of the 26, west of cross-course, at 5*l.* 10s. per fathom; lode worth 30*l.* per fathom; this rise is now up 7 fms. above the 26, and was first commenced at the 36, and for the whole of this height we have had a very rich lode, which is now available for stoping. The 16 to drive east of main rise at 4*l.* 15s. per fathom; lode worth 8*l.* per fathom. The 16 to drive west of main rise, at 4*l.* 15s. per fathom; lode worth 10*l.* per fathom. The main rise in back of deep adit level (carried 12 ft. long perpendicular) at 7*l.* per fathoms. We also set four stopes on tutwork at prices varying from 2*l.* 15s. to 3*l.* 15s. per fathom; lode worth in each 18*l.* per fathom. Out of the 19 bargains set on tutwork, 15 are in developing and opening up the mine, as is seen from the above. We have also set 14 tribute pitches at tribute varying from 3s. 6d. to 11s. in 1*l.*, or an average of 5s. 8s. in 1*l.* In clearing up the old sump shaft in the eastern part of the mine we have not yet reached the bottom of the choke, now down between 20 and 30 fms. below the adit level. As far as we have now gone through the old workings we find the lode is large and productive, a good portion of which is still standing; we broke some fine stones of tin from the lode and its branches in several places, and as soon as the shaft is cleared to bottom, which we shall do with all possible speed, we shall then set tributers to work, and we expect to keep our additional heads of stamps going from this part alone; judging as far as seen this shaft is gone down through a fine run of ground. Satisfactory progress is being made in the extension of our dressing-floors, &c., and we are pleased to say the mine continues to look well, and is returning a large quantity of tin.

MISSOURI LEAD MINING AND SMELTING COMPANY.

Dec. 5.—Since my last report of Nov. 14 the following work has been done:—The poppet-head has been completed, and the foundations for it to rest on constructed. The poppet-head raised and secured by strong timber work, and shears set, and the whole structure for landing brace enclosed and roofed for the protection of the landers. The pumping beam has been lowered and set in pit, and frame-work completed and raised in the iron building for the balance-bob. All the heavy machinery from Smith, Beggs, and Co., including plunger-lift with pumping-wheels, have been received. An extra eccentric and reversing gear has been put on, also the pumping and winding wheels, and tested under steam, working with entire satisfaction.

The entire machinery formerly used in sinking has now been readjusted and reset, and a large amount of new and valuable machinery added, including a Cornish pump. The improvements will reduce the consumption of fuel fully one-half, and effect a saving in this way—In two years of nearly the cost of all that has been expended. By the plans adopted in applying power from engine, and improvements to the boiler flues, and dispensing with belting, the engine can do double the amount of work, and will answer all our purposes as it now does for sinking Master shaft 20 fms. deeper, and drive levels at that depth. The west side of Master shaft is being cut down as fast as possible for plunger-lift and cistern plat. The driving north from Master shaft is being continued, and is now driven in 19 ft., and 6 ft. 6 in. by 4 ft. wide. The lode varies in width from 6 to 16 in., producing in places large solid stones of galena, valued above 13*l.* per fathom. The strata continue to improve for the production of rich deposits. While we are cutting down the shaft we shall have to suspend the driving awhile.—J. B. CHAMPION: *St. Clair, Franklin County, Missouri.*

CORNISH PUMPING-ENGINES.—The number of pumping-engines reported for November is 16. They have consumed 1550 tons of coal, and lifted 11·5 million tons of water 10 fms. high. The average duty of the whole is, therefore, 50,100,000 lbs. lifted 1 ft. high by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Cook's Kitchen—80 in. ....Millions	51·4
Dolcoath—85 in.	57·5
Mellanear—76 in.	52·9
Mellanear—Gundry's 80 in.	53·4
West Wheal Frances—58 in.	53·9
West Tolgus—Richard's 70 in.	53·5
West Wheal Seton—Harvey's 85 in.	63·7
West Wheal Seton—Rule's 70 in.	67·2

HOLLOWAY'S OINTMENT AND PILLS—COUGHS, INFLUENZA.—The soothing properties of these medicaments render them well worthy of trial in all diseases of the respiratory organs. In common colds and influenza the pills, taken internally, and the ointment rubbed over the chest and throat are exceedingly efficacious. When influenza is epidemic, this treatment is easiest safest and surest. Holloway's pills purify the blood, remove all obstacles to its free circulation through the lungs, relieve the over-gorged air tubes, and render respiration free, without reducing the strength, irritating the nerves, or depressing the spirits, such are the ready means of saving suffering when any one is afflicted with cold, coughs, bronchitis, and other chest complaints, by which so many persons are seriously and permanently afflicted in most countries.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

The Great Central Ice Company of London (Limited).—Capital 130,000*l.*, in shares of 5*l.* Using an invention for the manufacture of ice. The subscribers (who take one share each) are—W. Knighton, Sydenham; T. F. Henley, 56, St. George's-square; General W. F. Nuthall, West Kensington; Viscount Pollington, 8, John-street; J. J. Bennett, Barnsbury; H. W. Neild, Brighton; J. Sturt, 10A, Heathcote-street.

Glendenning and Company (Limited).—Capital 10,000*l.*, in shares of 1*l.* To establish and carry on a financial newspaper. The subscribers (who take one share each) are—F. Harford, 41, Alfred-street; A. Mason, 3, Church-place; T. Whitehall, 8, Mount-terrace; J. Kaylor, Hackney; H. Dyer, 57, South Audley-street; W. Cooper, Hackney Wick; J. S. Coleman, 13, Clement's Inn.

Collinge, Brierley, and Lancaster (Limited).—Capital 20,000*l.*, in shares of 50*l.* To carry on the business of commission agents for buying and selling grey and other cloth and yarns. cottons, &c. The subscribers are—W. Collinge, Burnley, 5; J. S. Collinge, Collinge, Burnley, 5; A. Lancaster, Burnley, 5; W. Brierley, Burnley, 5; R. S. Mill, Burnley, 5; R. Brierley, Hebelden Bridge, 1.

The Workington Hematite Tin and Steel Company (Limited).—Capital 70,000*l.*, in shares of 500*l.* To carry on the trades of ironmasters, colliery proprietors, engineers, steel manufacturers, ironfounders, smelters, &c. The subscribers (who take 20 shares each) are—J. Ledger, Keswick; H. Mackenzie, Distington; C. J. Valentine, Workington; P. Kirk, Workington; P. G. Quirck, Workington; J. Worton, Workington; W. Watson, Keswick.

The Date Coffee Company (Limited).—Capital 50,000*l.*, in shares of 5*l.* To manufacture for sale from dates a substitute for coffee. The subscribers (who take one share each) are—H. Fletcher, Gravesend; J. Burbidge, 62, Moorgate-street; G. Scott, Camberwell; A. Anderson, Southwark Park; G. Scott, 2, Bond-court; L. Stanislas, 14, Millman-street; F. H. Davis, 12, London-street.

The Ladies Co-Operative Supply Association (Limited).—Capital 100,000*l.*, in shares of 1*l.* To carry on a co-operative business. The subscribers (who take 50 shares each) are—Amelia Hall, 1, Thanet-place; Eliza Percy, 35, Gillingham-street; A. M. Fraser, 66, Fetter-lane; May Orwin, Stoke Newington; E. S. Bouillon, 16, Newman-street; Katherine L. Poole, 128, Holland-road; Ida M. Byers, Brockley; Kate Beck, Lewisham.

Ladywood Coffee Houses (Limited).—Capital 5000*l.*, in shares of 1*l.* To carry on the business of coffee house proprietors at Ladywood, Birmingham. The subscribers are—R. Parker, Edgbaston, 5; A. Hill, Edgbaston, 50; D. J. Fleetwood, Edgbaston, 25; E. W. Barnsley, Edgbaston, 20; E. H. Carter, Birmingham, 10; J. H. Shorebotham, Birmingham, 10; J. Baldwin, Birmingham, 20.

The Commercial Newspaper Company (Limited,).—Capital 10,000*l.*, in shares of 5*l.* To purchase and carry on the publication of "The Recorder of Commerce." The subscribers are—C. Mertens, 5, Billiter-square, 50; A. R. Luke, 134, Fenchurch-street, 50; C. P. Hodson, 33, Mark-lane, 50; W. Western, 26, Lime-street, 50; E. A. Henley, 70, Mark-lane, 50; W. D. Edwards, 65A, Leadenhall-street, 1; A. E. Edwards, 1, Mincing-lane, 1.

The Silvertown, Canning Town, and Victoria Dock Freehold Land and Building Company (Limited).—Capital 25,000*l.*, in shares of 1*l.* The purchasing or otherwise acquiring, laying out, improving, and disposing of property in the East-end of London and elsewhere. The subscribers are—J. P. Mines, 448, Camden-road, 100; B. E. Renier, East Ham, 100; J. Blake, 1, Chantler-road, 50; W. H. Hooper, Bow, 100; H. S. Carr, 82, Graham-road, 50; J. Bailey, Silvertown, 50; J. M'Kineway, Silvertown, 50.

The Dudley, Sedgley, and Wolverhampton Tramways Company (Limited).—Capital 50,000*l.*, in shares of 5*l.* To construct, maintain, and work tramways in the counties of Stafford and Worcester. The subscribers (who take one share each) are—G. S. Ullathorne, Wandsworth; V. Holt, Tottenham; R. Samford, 9, Mildmay Chambers; H. Clifford, Hammersmith; N. A. Cicognain, 20, Great Winchester-street; R. Scovell, 7, Kennington Crescent; R. C. Capel, Woolwich.

The Durham Seaborne Coal Association (Limited).—Capital 20,000*l.*, in shares of 1*l.* To purchase, sell, carry, and store coal, and carry on a coal merchant's business. The subscribers are—J. Cooper, Camberwell, 25; W. Willingsgate, 13, Approach-road, 25; G. Motion, Green Lanes, 10; E. W. Catling, Brixton, 10; J. Raymond, 56, St. George's-road, 5; S. G. Duncan, 7, Egbert-street, 5; T. Connor, 20, Lansdown Gardens, 5.

Aldrington Pier Company (Limited).—Capital 25,000*l.*, in shares of 5*l.* To construct and maintain a pier at Aldrington. The subscribers (who take one share each) are—J. Williams, Brighton; E. Gallard, Brighton; C. Bromfield, Brighton; C. Elliott, 9, Hart-street; A. Oliver, Brighton; W. Paice, 9, Hart-street; W. G. Liddaman, Brixton.

Durham Lead Mining Company (Limited).—Capital 30,000*l.*, in shares of 1*l.* To adopt and carry into effect an agreement made between Thomas Spargo and W. White on behalf of the company, for the purchase and working certain mining rights therein mentioned (agreement not registered) to work any mines in the parish of Froterley, Durham, and also to purchase or otherwise acquire other mines and mining rights in England; the working of mines and minerals, and carrying on the business of a mining company in all its branches. Purchasing, selling, and otherwise dealing with all ores and minerals. The erection of buildings, furnaces, machinery, engines, apparatus, plant, and appliances as may be required. The subscribers (who take five shares each) are—W. Weller, Bow, wine and spirit merchant; E. Miller, Barnsbury, accountant; T. Lowther, 10, The Mall, journalist; F. M. Pizzley, 2, Osborn-road, commission agent; J. Cann, St. Day, accountant; T. Bevans, 2, Great Marlborough street, dentist; W. R. Johnson, 57, Walbrook. surveyor. The directors not to be more than seven or less than three.

The Little Eaton and St. Pancras Steam Laundry (Limited).—Capital 10,000*l.*, in shares of 1*l.* To carry on the business of a laundry and bleaching works at Little Eaton, Derby. The subscribers (who take one share each) are—R. Sellors, Derby; W. H. Smith, Little Eaton; G. Timm, Bakewell; W. Young, Derby; F. Smith, Derby; A. Meakin, Derby; J. Hallan, Derby.

The Egret Cotton Spinning and Manufacturing Company (Limited).—Cupital 10,000*l.*, in shares of 100*l.* To purchase and work mills situate in Old-street and Bentinck-street, Ashton, Lancashire. The subscribers (who take one share each) are—S. Heywood, Heywood, J. B. Valentine, Manchester: E. Heywood, Heywood; R. H. Valentine, Mossley; W. Heywood, Heywood; E. Heywood, Lincoln.

Grand National Opera Company (Limited).—Capital 160,000*l.* in shares of 100*l.* To purchase or otherwise acquire a site from the Board of Works on the Victoria Embankment for the erection of a building to be utilised for the purposes of an Opera House. The subscribers (who take one share each) are—P. H. Hewitt, Windham Club; M. Staniload, Selsby; W. Black, 6, Hanover-square; W. Webster, 8, St. Martin's-place; W. Porter, Lee; J. Armitt, 9, St. John's Wood Park; H. Mapleson, 51, Victoria-street.

American Iron Trade.—The market for pig-iron at Philadelphia is much stronger than it was, and buyers appear very anxious to place their orders, even at an advance. Several large sales have been made for early delivery in the new year, and during the last few days orders for many thousands of tons have been refused. The fact is that during the revival of the trade nearly all the stocks have disappeared, and there is scarce a furnace in the country which holds any accumulation. There has been a great rise in the cost of production; ore that was selling a few weeks ago at 20s. per ton now fetching 36., while the prices of fuel and labour are fast assimilating to the same standard. Bessemer iron has likewise advanced, and prices are gradually stiffening, both for iron and steel rails. The Pittsburg pig market has been rather quieter, in view of stock-taking and the holidays; though the demand for first-class brands has by no means fallen off. There is a growing disinclination to buy foreign importations, consumers preferring to use native-made iron to anything else. Some of the furnaces in the Pittsburg district are sold several months ahead, and, except at advanced prices, makers are in no hurry to conclude fresh bargains. The consumption of iron here is from 12,000 to 15,000 tons per week. The inquiry for steel rails and merchant rails is stronger than ever, and offers are made for delivery nine months ahead. The make in the Chattanooga district for 1880 is expected to be double that of 1879, as furnaces in Allabama and Georgia representing a yield of 20,000 tons will be blown in by New Year's Day. The market at Boston also tends upwards, though quieter in tone. At St. Louis it is characterised by extreme activity, and the same at Baltimore, where the duties paid in three days on foreign arrivals amounted to $80,000.

Mr. THOMAS THOMAS,
MINERAL AGENT AND ASSAYER,
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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—London, Dec. 24, 1879.

Iron.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	3 4 7½	—
,, Scotch, all No. 1 ...	3 1 0	3 8 0
Bars, Welsh, f.o.b. Wales	6 7 6	6 10 0
,, ,, in London .	6 15 0	7 0 0
,, Stafford., ,,	7 17 6	8 10 0
,, in Tyne or Tees ...	6 15 0	7 0 0
,, Swedish, London...	10 0 0	—
Rails, Welsh, at works ..	6 10 0	6 15 0
Sheets, Staff., in London	9 0 0	9 5 0
Plates, ship, in London .	8 0 0	—
Hoops, Staff., ...	8 10 0	8 15 0
Nail rods, Staff., in Lon.	7 15 0	8 0 0
Steel.		
English, spring 13	0 0	19 0 0
,, cast 30	0 0	40 0 0
Swedish, keg 13	0 0	—
,, fag. ham. 15	0 0	—
Lead.		
English, pig, common...19	0 0	—
,, ,, L.B. 19	5 0	—
,, ,, W.B. .....(nom.)		—
,, sheet and bar..20	0 0	—
,, pipe 20	10 0	—
,, red 21	10 0	—
,, white 30	0 0	—
,, patent shot ...22	0 0	22 10 0
Spanish.....18	15 0	—
Nickel.		
Metal, per cwt. 15	0 0	16 0 0
Ore, 10 per cent. per ton.20	0 0	25 0 0
Quicksilver.		
Flasks, 75lbs.,war.(nom)	6 10 0	—
Spelter.		
Silesian 20	5 0	20 10 0
English, Swansea 19	0 0	—
Sheet zinc.....25	0 0	—

Tin.	£ s. d.	£ s. d
English, ingot, f.o.b...	95 0 0	—
,, bars ,, ...	96 0 0	—
,, refined.....	93 0 0	—
Australian	90 10 0	91 10 0
Banca	95 0 0	(nom.)
Straits	90 10 0	91 10 0
Copper.		
Tough cake and ingot.	70 10 0	71 10 0
Best selected	72 0 0	73 0 0
Sheets and sheathing.	75 0 0	76 0 0
Flat Bottoms	79 0 0	—
Wallaroo	75 0 0	75 10 0
Burra, or P.C.C.....	74 0 0	—
Other brands	72 0 0	—
Chili bars, g.o.b.	66 10 0	—
Phosphor Bronze.		
Alloys I., II., III., and IV. ...	£115 0 0	
,, VI. and VII.	130 0 0	
,, XI., Spl. bearing metal	110 0 0	
Brass.		
Wire	7½d.	—
Tubes	9	—
Sheets	8¼	-8¾d.
Yel. met. sheath. & sheets	8	-8¼d.

Tin-Plates.*	per box.	
Charcoal, 1st quality ...	1 8 6	1 10 0
,, 2nd quality ...	1 7 0	1 9 0
Coke, 1st quality	1 6 6	—
,, 2nd quality	1 5 0	—
Black..... per ton	17 10 0	—
Canada, Staff. or Gla. at Liverpool	12 0 0	—
Black Taggers, 450 of 14 × 10	30 0 0	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

Remarks.—This being a broken week on account of the Christmas holidays, there has not been any very strong desire on the part of consumers to enter into fresh engagements of any magnitude. At the same time the amount of business being transacted is larger than usually occurs at this period of the year, and although the demand does not happen to proceed from consumers so much as from other buyers, yet prices have been maintained with firmness, and in some instances show further improvement. The quotations for metals generally are now so much higher than they have been at any previous part of the year that they ought to be deemed fairly satisfactory, and before sellers attempt to raise them to any higher standard they ought to be well assured of the continuance of the demand. The principal thing to take into account is how far will general business be affected by the changes which have taken place fn prices. Too much reliance must not be placed upon the speculative element, as that is always uncertain and may vanish at any moment, and besides, at times when carried to excess, it rather tends to injure the ordinary trade, and especially if any political convulsion or any other event of a serious nature should occur. The New Year is looked forward to very hopefully by a great number of persons, and a great increase in business is expected. We are unwilling to throw any damper upon the most sanguine anticipations; at the same time we think it would be as well still to observe caution and moderation, and not to be too ready to jump at conclusions on the first blush of things, but allow a little more time for the proper development of trade. If we go pushing on too fast the chances are that we shall have to go over at least some portion of the ground a second time, but with care this may to a large extent be avoided. There is nothing so much calculated to inspire confidence as a slow but progressive upward movement in price when it is based upon a gradual absorption or reduction in stocks.

Copper.—On Monday this market was firm, the official report quoting g.o.b.'s at 66*l.* spot, and 67*l.* to 67*l.* 10s. forward, and yesterday 66*l.* 5s. to 66*l.* 10s. spot and 67*l.* to 68*l.* forward. Wallaroo, 75*l.* 10s.; Burra, 74*l.* to 74*l.* 10s.; tough, 70*l.* to 71*l.* 10s.; best selected, 72*l.* to 73*l.*; and strong sheets, 77*l.*; and to day the market is steady at 66*l.* 10s. g.o.b.'s spot and 67*l.* 10s. to 68*l.* forward. The mail of Dec. 10 from New York states the combination prices for manufactured copper are unchanged. New sheathing copper, 28 c.; brazier's, 30 c.; bolts, 30 c.; bottoms, 33 c.; American yellow metal sheathing, 13½ c. in bond. The market for ingots remains quiet and easy. There have been small sales of Lake at 21¼ c. to 21⅜ c. prompt cash; but the stock is generally held for 21½ c., which is the closing quotation.

Iron.—This market continues firm at the enhanced rates, sellers generally being indisposed to make any concessions while the prospects of the future are thought to be so promising. On Monday an active business was transacted in pigs, and up to 65s. was quoted. Yesterday the market fluctuated slightly, 64s. 10½d. being the closing quotation, and to-day's price for mixed numbers is 64s. 7½d. cash.

Shipments.	
For the week ending Dec. 20, 1879 .....Tons	13,467
For the week ending Dec. 21, 1878	7,734
Increase.....	5,733
Total increase for 1879	159,990
Imports of Middlesborough pig-iron into Grangemouth:—	
For the week ending Dec. 20, 1879	7,954
For the week ending Dec. 21, 1878	6,387
Increase.....	1567
Total decrease for 1879.....	28,390
Furnaces.	
In blast Dec. 20, 1879	100
In blast Dec. 21, 1878	92

Tin.—At the commencement of the week this market was firm, and business was reported up to 91*l.* 10s. to 92*l.* for fine foreign; yesterday, however, sellers became weaker in their quotations, and 91*l.* to 91*l.* 10s. was officially quoted, and to-day the market closes at 91*l.* cash.

Lead has improved in value, and sellers are firm at the increased rates.

Spelter steady.—Tin-Plates are rising in price.

Steel remains unaltered.

Quicksilver.—As a further consequence of the arrival of the parcels referred to in our last Journal the importers of Spanish have again reduced their price, and sold good quantities at 6*l.* 10s.

Messrs. Pixley and Abell.—Gold: There is at present no demand for bars for export, and the only withdrawal from the Bank has been a sum of 120,000 sovereigns, for South America, &c. On the other hand, the undermentioned arrivals will probably all go into the Bank, and 117,000*l.* in bars and sovereigns have already been purchased. We have received since our last 17,060*l.* from Brazil, 5080*l.* from Buenos Ayres, 195,060*l.* from Australia: total, 217,200*l.* The amount of gold sent from Liverpool to America in November was 1,559,150*l.*—Silver: The only arrival to report is that of 15,000*l.* from New York. This was placed at 52⅜d., and at this quotation the market remains steady, as the supplies are so small. As our circular is printed earlier this week we are unable to give the full details of the shipments to the East. We may, however, state that about 100,000*l.* has already been sent in to the P. and O. Company's office.

As our remarks upon the Mining Share Market this week will only extend to 4 o'clock on Wednesday afternoon (before many of the usual mine reports reach London) they must of necessity be somewhat brief, and our quotations in many instances are merely nominal.

The mines which since Saturday have been mostly dealt in are Parys Corporation, Wheal Crebor, Glenroy, Carn Brea, Dolcoath, Wheal Peevor, West Frances, West Assheton, Herodsfoot, and a few others.

Tin.—The fluctuations in the Standard for tin ore are becoming as frequent and as puzzling as the fluctuations in the prices of shares. Last week we had to announce that the smelters had put down the prices of ore 2*l.* per ton, and that tin shares were flat and almost unsaleable. On Saturday last the Standard was advanced again 2*l.* per ton, and consequently on Monday a general rise took place in the quotations for tin shares, but not much actual business ensued.

Carn Brea shares advanced on Monday, and leave off 60, 62½; Dolcoath, 54 to 56; Cook's Kitchen, 3 to 3½; Tincroft, 16 to 17; East Pool, 22½ to 23; South Condurrow, 12½ to 13½; South Frances, 10¾ to 11. Wheal Grenville, 4½ to 5; at the meeting a call of 5s. per share was made. The accounts we gave last week, and particulars of the meeting will be found in another column. Wheal Basset, 2¼ to 2½; Wheal Agar, 6¼ to 6½; West Basset, 12 to 12½; Wheal Peevor after declining 19 to 19½ have advanced, and leave off 20 to 22. East Lovell, 1½ to 2; Wheal Sisters, 15 to 17½; North Penstruthal 15s. to 20s.; South Penstruthal, 18s. to 20s.

Copper Mines show a few variations, but general business has not been large. Devon Great Consols 6 to 6½. Wheal Crebor have been rather firmer, 6¾ to 7¼; the report states the 120 east continues worth 100*l.* per fathom, but the western end worth 60*l.* only. In Parys Corporation a very large business has been transacted. On Saturday information was received at the office that a lode had been cut in the 90 cross-cut south, and shares advanced to 25s. On Monday, there being no further report, shares were weaker, and few buyers. On Tuesday they rose to 25s. and 30s.; opened on Wednesday 27s. 6d. to 32s. 6d., and left off 32s. 6d. to 37s. 6d. The latest report states that "the copper cut in the 90 south continues to look very well, and the agent hopes to give a fuller report in a few days." East Caradon, 2½ to 3; Hingston Down, 10s. to 12s. 6d.; Marke Valley, 27s. 6d. to 32s. 6d.; Mellanear, 4¼ to 4½; East Crebor, 20s. to 25s.; Prince of Wales, 10s. to 15s.; South Caradon, 70 to 75; West Seton, 45 to 50; West Tolgus, 25 to 27.

Lead and Blende continue firm, and a fair business doing in shares. Vans, 23 to 25; no change at the mine; the 105 continues of the same value as last reported. Great Laxey, 18 to 19; Roman Gravels, 12 to 12½; Tankerville, 5¾ to 6; D'Eresby Mountain, 30 to 40; Aberllyn, 10 to 11; Clementina, 1 to 1⅛; West Assheton, 3¼ to 3½; East Van, 2¼ to 2⅜; Herodsfoot, 2⅛ to 3⅛; Leadhills, 4⅜ to 4⅝; West Chiverton, 1½ to 2. Pateley Bridge, 15s. to 20s.; the 40 east, on Rake vein, has improved, and now worth 2 tons of lead ore per fathom. South Darren, 3 to 3½; in the 110 end the lode is hard, which is generally favourable for ore here. East Roman Gravels sale of ore, 30 tons, realised 12*l.* 15s. 6d., or an advance of 1*l.* 4s. per ton. Pandora, 15s. to 20s.; the new lode and Goddard's have both improved. Grogwinion, 3¼ to 3⅜; Caron, 1⅜ to 2¼; Crosswood, 1 to 1½; Frongoch, 3½ to 3¾; Hartington, 1½ to 2; Mawston, 1½ to 2; Red Rock, 1½ to 2; West Wye Valley, ¾ to 1; Wye Valley, ¼ to ¾; Port Nigel, 2 to 2½; North D'Eresby, 1 to 1¼; Gorsedd add Merllyn, 1½ to 2⅛; Van Consols and Glyn, ⅜ to ⅝; West Holway, 1 to 1⅛; Glenroy, 17s. 6d. to 22s. 6d.; Gwernymynydd, 5½ to 5⅝.

Foreign Mines.—Canada Gold, 1½ to 1⅜; Blue Tent, 1⅞ to 2⅛; Placerville, 2⅜ to 2½; Cape Copper, 33 to 35; Colorado, 1⅜ to 1⅝; Don Pedro, 10s. to 12s. 6d. Santa Barbara, 2 to 2¼; the advices for October show a profit of 883*l.* 16s. 5d. The gold returned was 4641 oits., estimated at 1972*l.* 8s. 6d., against a cost of 1088*l.* 12s. 1d. Eberhardt and Aurora, 3 to 3¼; Flagstaff, 1⅜ to 1⅝; Frontino and Bolivia, 2⅜ to 2⅝; New Quebrada, 3¼ to 3⅜; Nouveau Monde, ⅞ to 1⅛; Panulcillo, 4⅜ to 5; Pestarena, ⅛ to ¼; Richmond, 9⅜ to 10⅛; Last Chance, 7s. 6d. to 12s. 6d.; Missouri, 10 to 11; New Zealand Kapanga, 10s. to 15s.; New Quebrada, 3⅛ to 3⅜; Panulcillo, 4⅜ to 5; St. John del Rey, 270 to 280; Ruby, 4½ to 4⅝.

The Market for Mine Shares on the Stock Exchange has completely recovered from the dulness noticed last week, and although there have been but three business days—Christmas day and Bank Holiday falling on Thursday and Friday—a considerable number of transactions have taken place. A glance at the "business done" column of the Official List affords gratifying evidence of real activity, and shows that the dealings have not been confined either to a single mine or to a single class of mines. Taking Wednesday's business only it is found that Tankervilles were dealt in at 6, and Wheal Grenville at 3½, whilst in foreign mine shares Don Pedro were done at 5-16ths; Flagstaff at prices varying from 1 7-16ths to 1⅝; New Quebrada at 3¼; Panulcillo at 4⅜; Richmond, several transactions between 9⅞ and 10⅛, the closing price being 9¾ to 10¼, with a decided upward tendency, no doubt due to the general improvement at the mines. Rio Tinto mortgage debentures at 90 to 91; ditto shares at 9 to 9⅛; Scottish Australian new at 1, and United Mexican at 2¾. This number of transactions in connection with the mines in the comparatively short list officially quoted will be readily understood to represent a large general business, as it is well known every mine share in which there is really any market is readily dealt in by members of the House whether officially quoted or otherwise. Altogether the mine share market is in a thoroughly sound and healthy condition, which is the more gratifying seeing that this is practically the last week in the old year, so that everything is cheering to commence a new one even should the remaining few days show the absence of business usual at this season. The market was no doubt favourably affected by the advance in the Cornish Tin Standards on Saturday, which being known to the leading dealers on Monday morning put them in good spirits for the opening, and if they consider the improvements of the last few months they are unlikely to be troubled with depressed feelings concerning the future. Since the beginning of August there has been but three small drops to nine advances in the Standards, and tin ore, which at the date mentioned was but too readily purchasable at 56*l.* per ton, now commands 84*l.*, the rise being precisely 50 per cent. Other metalliferous ores likewise show great improvement in prices, although the percentage of advance does not quite reach that of tin ores. In lead ores, however, the rise is from 40 to 50 per cent., in blende and calamine from 25 to 30 per cent., and in copper from 15 to 20 per cent., whilst iron is 40 to 50 per cent. better, and tin-plates have advanced in a corresponding degree. There is, moreover, considered to be every prospect that present rates will be fairly maintained, and at these rates all mines of ordinary promise can with judicious and economic management be made to yield good profits to capitalists, who have only to take care that they connect themselves with mines which are wrought for the mineral they contain, and to avoid those which are merely kept going for the purpose of facilitating the manipulation of the shares in the market.

The Provincial Share Markets close with the same steady and gratifying activity which characterises those of London, so that the improvement and confidence would appear to be general. From Manchester Messrs. J. R. and W. P. Baines forward a most encouraging report, which will be found in another column. The Glasgow market is in a healthy condition. Our Newcastle-on-Tyne correspondence has missed either through irregularity of the post or from the supposition that we should go to press on Wednesday evening. The Cornish share market has again become animated through the advance in the tin standards, so that all may congratulate themselves that the year closes well.

The Providence Mines (in liquidation) meeting was held at Penzance on Tuesday, when the accounts showed a net available balance of 458*l.* 0s. 10d. It was resolved that a dividend of 1*l.* 2s. 6d. per 385th share (originally 1120, but reduced by forfeiture and re-

linquishment) amounting to 433*l.* 2s. 6d. be made, payable forthwith, and that the balance of 24*l.* 18s. 4d. be left in the hands of the purser, with the unpaid calls, &c., he may receive, and which he is hereby empowered to enforce payment of, to meet any further expense of winding up the affairs, &c. This concern would certainly appear to be one which with the improved position, and prospects of the tin trade would be well worth resuscitating. The total capital with which the mine was opened in 1832 was 23,628*l.* 1s., with which the mine was worked, and made to turn out mineral which sold—tin ore (averaging 6*l.* 10s. 6d. per ton), 534,189*l.* 6s. 5d.; copper ore, 58,397*l.* 3s. 6d.; uranium ore, 25*l.* 4s. 4d.; and sundries, materials, &c., 6865*l.* 16s. 2d. The wages, &c., paid were 486,769*l.* 2s. 10d., and the lords dues, 21,859*l.* 7s. 9d., leaving 114,253*l.* 2s. 6d. net profit for the shareholders, so that each subscriber of 24*l.* 6s. 7d. received back in dividends 102*l.* 15s. Such is the result of mining when carried on for the benefit of the adventurers, and without loading the capital account with heavy purchase money, and other charges made only in the interest of promoters and share speculators. The Providence Mines ceased paying dividends from returns in 1872.

Fortuna, 5½ to 6; the managers' report (Dec. 10) states that in Hibert's winze, below the 110 fm. level, the lode is strong, regular, and well defined, and yields 3 tons of ore per fathom. The usual weekly weighings of lead ore were kept up very steadily throughout the past month, during which there were only the ordinary fluctuations in the value of the stopes. The works at surface are going on very regularly, and the machinery is in good condition. They estimate the raisings for December at 300 tons. Linares, 5½ to 6; with regard to Quinientos, the managers report that a great length of valuable lode has been driven through in the 90, east of Taylor's shaft, worth 1 ton of lead ore per fathom during the past month, but it has failed lately. The 80, driving east of San Carlos shaft, produces ½ ton of ore per fathom, and is a strong, regular, and promising lode. In the same level, driving east of boundary shaft, the lode is again improving, and is of a promising appearance, producing 1 ton of lead ore per fathom. A good length of valuable lode is being opened up in the 50 fm. level, driving east of boundary shaft, producing 2 tons of lead ore per fathom. They estimate the raisings for December at 75 tons.

Missouri, 10 to 11; everything at the mines is progressing as satisfactorily as could be desired. The manager (Dec. 5) reports that all the heavy machinery, including plunger-lift with pumping wheels, have been received. The entire machinery formerly used in sinking has now been readjusted and reset, and a large amount of new and valuable machinery added, including a Cornish pump. The improvements will reduce the consumption of fuel fully one-half, and effect a saving in this way—in two years of nearly the cost of all that has been expended. By the plans adopted the engine can do double the amount of work, and will answer all purposes as it now does for sinking Master shaft 20 fms. deeper, and drive levels at that depth. The lode varies in width from 6 to 16 in., producing in places large solid stones of galena, valued above 13*l.* per fathom. The strata continue to improve for the production of rich deposits.

St. 'John del Rey, 270 to 280; the latest telegram from the mines at Morro Velho, dated Rio de Janeiro, Dec. 23, states that the profit for November was 4600*l.* Don Pedro North del Rey, ¼ to ⅜; the manager's report (Nov. 18) contains little worthy of note. The 40 fm. level is cleared and secured 4 fms. 3 ft., and driving the said level towards No. 6 shoot is resumed. This shoot is standing intact below the said level, therefore judging by the results obtained when last worked, and particularly at the point where left off, a large body of fair quality ore may, he considers, be calculated on before reaching the bottom of the 50. A rise at Bryant's has been commenced from the No. 8 old shoot towards the new lode discovered, with a view to further explore this part of the mine, which work is being carried on with a few spare hands without interference to other work. So far there is no change here lo note.

Richmond, 9⅜ to 10½; the telegrams received this week from the mines at Eureka, Nevada, are very satisfactory. The week's run was $49,000, from 1074 tons of ore. During the week the refinery produced doré bars to the value of $33,000. On Tuesday a special telegram was received relative to the developments under the Tip Top ground. It states that the chamber has been opened 80 ft. by 35 ft., and that the ore has been followed upwards of 45 ft., and downwards 65 ft., at an angle of 70°, the pitch being northerly. The manager (Dec. 3) reports that operations both in mine and smelting works have been carried on with the usual regularity. The new ore body in the 400, that referred to in the special telegram, was at the date of the report opening out very well. The report adds that this ore body is undoubtedly a continuation of the ore bodies discovered in the 600. There was nothing new in any of the other ore bodies; they are looking very well, and turning out the usual quantity of ore. The furnaces are in good working order, and smelting the usual quantities.

Ruby, 4½ to 5: it is reported that the cross-cut from the Dundaberg, to intersect the hanging-wall of the lode in the Home Ticket sett is being driven in favourable ground, and showing indications of an early discovery. The tribute pitches are yielding large quantities of ore, and the prospects generally are considered good.

Canada Gold, 1½ to 1¾; the report this week simply confirms the information already given. Details of gold returns, &c., are expected by next mail.

In Lead Mine Shares there is a continuation of the animation already noticed, and a large number of transactions have taken place at fully last week's quotations. Van, 23 to 25; the value of the 105 being fully maintained, and the mine otherwise remaining without change.

Gwernymynydd, 5½ to 5¾; it is reported that the lode in the rise towards the upper flat is worth 2 tons per fathom, and that the bottom flat is being driven in a rich course of ore. It is further mentioned that the other points of operation are looking well, and that 50 tons are already in the bin for next sale.

Monydd Gorddu, 1¾ to 2; on Wednesday the 20 tons of lead ore sampled from this mine was sold to Messrs. Goodhart and Co. at 16*l.* 0s. 6d.—an excellent price, and one which must be gratifying not only to the adventurers in Monydd Gorddu, but to lead mine shareholders generally.

Mineral Corporation, 12 to 13; operations are progressing as satisfactorily as usual. The frost is still interfering somewhat with dressing and other surface operations, but ore is accumulating, which will speedily be prepared for market.

Grogwinion, 3¼ to 3¾; no fresh news of importance, but the mine is stated to be looking as well as ever. Frongoch, 3¼ to 3¾; the meeting will be held on Monday; operations at the surface have been rather hindered by the severe frost, but underground work is being pushed ahead with the usual satisfactory result. Caron, 1¾ to 2¼; nothing new this week. Red Rock, 1½ to 2; good accounts coutinue to be received from the mine. West Wye Valley, ¾ to 1¼; Crosswood, 1 to 1½; Mawston, 1½ to 2.

Plas-ddu (Llanarmon), 4 to 5; it is reported that No. 4 shaft, sinking on Maesypwll lode, is improving for lead ore again, the ground passed through composed of patches of carbonate of lime and blende. This is all that can be desired for making a rich and lasting mine. Westminster Bog Issa, 5 to 6; the report states that the rise in the roof of the 35 yard level, on the Great Nant lode, is producing good lumps of lead ore, and when up 4 or 5 yards they expect a rich run of ore; the other pitches are producing as usual. Washing still suspended in consequence of frost, but a large accumulation of orestuff broken underground.

The subjoined is the list of the closing quotations:—

Assheton, ¾ to 1¼; Carn Brea, 60 to 65; Denbighshire, 2 to 3; Devon Great Consols, 6 to 6¼; Dolcoath, 54 to 56; East Caradon, 2½ to 3, East Van, 2 to 2¼; Gwernymynydd, 5¾ to 5¾; Glenroy, ¾ to 1; Great Holway, 4½ to 5; GreatLaxey, 18 to 19; Gorsedd, 1½ to 2½; Hingston Down, ½ to ⅝; Leadhills, 4¾ to 4⅝; Marke Valley, 1¾ to 1½; Mineral Corporation, 12 to 13; Pateley Bridge, ⅝ to ⅞; Pennant, 4 to 5: Pen-yr-Orsedd, 1 to 1¼; Roman Gravels, 12 to 12½; Tankerville, 5¾ to 6; Tincroft, 16 to 17; Van, 23 to 24; West Assheton, 3¼ to 3½; West Basset, 11 to 12; West Chiverton, 2½ to 3; West Holway, 1 to 1½;; Wheal Crebor, 6¾ to 7¾; Wheal Grenville, 4½ to 5; Almada and Tirito, ¼ to ½; Birdseye, ½ to ¾; Blue Tent, 2 to 2¼; Canada Gold, 1¾ to 1¾; Cape Copper, 33 to 35; Colorado United, 1½ to 1¾; Don Pedro, ¾ to ⅞; Eberhardt and Aurora, 2¾ to 8: Exchequer, ⅛ to ¼; Flagstaff, 1⅜ to 1⅝; Frontino and Bolivia, 2⅝ to 2⅞; Hultafall, 1¾ to 2; Kapanga, ⅜ to ⅝; New Quebrada, 3⅜ to 3⅝; Pestarena, ¼ to ⅜; Placerville, 2⅜ to 2½; Port Phillip, ⅜ to ½; Richmond Consolidated, 9¾ to 10¼; Ruby and Dunderberg, 4¼ to 5; St. John del Rey, 275 to 280; Santa Barbara, 2⅛ to 2⅜; Sierra Buttes, 1½ to 1¾; United Mexican, 2¼ to 3.

PROVINCIAL STOCK AND SHARE MARKETS.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (Dec. 24), write:—The share market here has continued firm since our last report, and the amount of business reported is, considering the season, of a very fair amount. Prices have not fluctuated much, except in one or two cases, notably on John Brown and Co. shares, but business has been transacted at or near full rates lately marked. A rery hopeful view seems to be taken of the prospects of trade generally in the coming year, and this naturally causes a buoyant feeling to pervade the market throughout.

BANKING CONCERNS have been dealt in to an extent above the average for some time past, the transactions being divided amongst most of the local concerns, without many dealings in any one particular concern except, perhaps, Manchester and Liverpool District Bank. Manchester and Salford Bank, in which one transaction is reported, are ½ higher, and Districts are ½ higher. No instance of decline.

INSURANCE.—A few fractional movements have occurred in these shares, but there are none of any importance. Some little business has been done in them, but not of sufficient amount to show any general tendency in either direction.

GAS AND WATER ANNUITIES AND CORPORATION STOCK.—The only changes in these classes are advances, and are—a rise of ⅛ in Oldham Gas and Water Annuities, and ¼ on the buyers price for Manchester Corporation Stock, the sellers' figure remaining as at last report. Business is reported in both the above-named stocks at or within a trifle of full values. Not being liable to fluctuation these stocks usually find ready sale at or near full quotations.

COAL, IRON and STEEL, and MINING SHARES have attracted the main share of attention in the market during the past week, and the alterations of prices in the great majority of instances where change is marked are for the better; indeed, the only cases of decline are—Cammells, 1; West Cumberland, ¼; and Bolckow, A (60*l.* paid), ¼ lower; whilst Bolckow, A (fully paid), are ⅛; ditto, B, ⅛; John Brown, 2½; Sheepbridge, ½; Tredegar, B, and A. Knowles and Sons, ¾ each; Pelsall Coal, ¼; and Bagnall, ⅛ higher. In John Brown and Co. and A. Knowles and Sons there has been some fluctuation during the past few days. In the former, on Saturday last, an adverse movement occurred on it being announced that no interim dividend was to be declared, and prices receded to 19 dis., but recovered quickly to 15 dis. On Tuesday, however, the company's circular, stating that a favourable result was expected from the year's working, caused a further advance to be established, and this evening the prices are 11 to 10½ dis., they having been done to-day at 10½ dis. Knowles have been quoted 20 to 21, but are now 19¼ to 19¾. Only one transaction is reported in this company's shares (25*l.* paid) at 23 (2 dis.) The business has been considerable, and is fairly distributed, but in Bolckow chiefly. Brown have been done several times at varying prices.

COTTON SPINNING AND MANUFACTURING.—The market in this class may be described as firm, but quick. No great amount of business has been done, for whilst prises remain nominally about the same as at last report, and buyers are fairly plentiful, sellers do not evince any anxiety to force business. Some very close quotations have been marked lately, without resulting in business, owing to the refusal of sellers to accept any reduction on top values, good buyers, on the other hand, being disinclined to follow the market so far. The rise in these securities has been very rapid and well supported, and the opinion has been expressed recently that the results shown at the next stock takings will be more likely to justify it than was by some expected.

MISCELLANEOUS.—A fair amount of transactions are reported in miscellaneous shares, but it is of a desultory character. Dealings are reported in London and Manchester Plate Glass and Bridgewater Navigation, the former at top figures. In prices there are no movements worthy of speeial mention.

RAILWAYS.—A decidedly firmer tone has prevailed during the past week. Owing to the tendency to ease in the money market the prospects of the further development of trade, and the better news from India, a more hopeful view is taken of the situation, and buying has been tolerably brisk, prices showing considerable advances. The stocks principally in request are Sheffield, Great Western, Caledonian, Chatham, North-Eastern, London, South-Eastern, and Brighton The traffic reports issued to-day are favourable.

CORNISH MINE SHARE MARKET.—Mr. J. H. REYNOLDS, Redruth (Dec. 24), writes:—The Cornish mine share market has been brisk during the week, and transactions numerous, the smelters having put on the 2*l.* in the standards which they had previously taken off. Prices close as follows:—Carn Brea, 60 to 62; Cook's Kitchen, 3¼ to 3¾; Dolcoath, 54 to 56; East Caradon, 2¾ to 3; East Lovell, 2 to 2½; East Pool, 23 to 24; Herodsfoot, 3¼ to 3⅜; Killifreth, ¾ to ⅝; Marke Valley, 1⅜ to 1⅝; Mellanear, 4¼ to 4¾; New Cook's Kitchen, 4¼ to 4⅜; North Busy, 3 to 4; North Levant, 4¼ to 4⅜; North Penstruthal, ¾ to 1; Phœnix, 4 to 5; South Caradon, 75 to 85; South Condurrow, 12 to 13; South Crofty, 6¾ to 7¼; South Frances, 10¾ to 11¼; Tincroft, 16¼ to 17½; West Basset, 11½ to 12; West Chiverton, 2¾ to 3; West Frances, 12½ to 13⅛; West Peevor, 5¾ to 6¼; West Tolgus, 24 to 26; West Seton, 42 to 44; Wheal Agar, 6½ to 7; Wheal Basset, 2¾ to 2⅝; Wheal Comford, 3 to 4; Wheal Crebor, 7 to 7½; Wheal Grenville, 4¼ to 5; Wheal Jane, 4 to 4½; Wheal Peevor, 22½ to 23½; Wheal Kitty (St. Agnes), 2¾ to 3; Wheal Uny, 1 to 1¾.

—Mr. M. W. BAWDEN, Liskeard (Dec. 24), writes:—The unexpected advance of 2*l.* on the Tin Standard on Saturday last has created a demand for most of the leading tin stock, but to-day's prices have slightly receded. Copper and lead mines firmer, and in request. Subjoined are Wednesday evening's closing prices:—Bedford United, ⅜ to ½; Carn Brea, 60 to 62; Clitters, 2 to 2¼; Cook's Kitchen, 3¼ to 3⅜; Dolcoath, 53 to 54; Devon Consols, 6¼ to 6½; East Caradon, 2¼ to 2½; East Pool, 21 to 22; Gawton, ½ to ⅝; Glasgow Caradon, 1¼ to 1⅜; Herodsfoot, 3 to 3¼; Hingston Down, ⅝ to ¾; Marke Valley, 1½ to 1¼; Phœnix, 5 to 5¼; South Caradon, 72½ to 75; South Condurrow, 12 to 12½; South Crofty, 7½ to 8; South Frances, 10¼ to 10¾; Tincroft, 16¾ to 16¼; West Mary Ann, 1 to 1¼; Wheal Crebor, 7 to 7¼; Wheal Jane, 4¼ to 4½; Wheal Peevor, 20 to 21; Wheal Uny, 1⅝ to 1⅝.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Lecture on Practical Mining in Germany—Clausthal Mining School Notes—No. CXLII. The Sydney International Exhibition—No. IV. Steel—the Metal of the Future. Increased Make from Blast-Furnaces. Field Geology. Apparatus for Burning Liquid Steel. Pure Crystalline Forms of Carbon. New Hand Rock-Drill. Manufacture and Melting of Iron and Steel. Tramways, &c.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. ABBOTT, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

GAS SHARES.—The principal business in these shares, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, has been in Commercial, 177; Continental Union, 19½, 19; Gas, A, 177¼, 174, 173, 171; ditto, 4th issue. 16¾; ditto, fifth issue, 16¼; ditto, C, 209, 208; ditto, H, 7 per cent. max., 130, 128, 131; Imperial Continental, 170; Oriental, 7¼, 7⅜; ditto, new, 4⅞; Para, 5; Phœnix, 37; South Metropolitan, A, 200½. († exceptional amount at special price.) All gas shares are flat upon report that Mr. Edison has discovered a cheap electric light. For closing prices see list on last page of Journal.

INSURANCE SHARES have, according to this evening's report of Mr. W. L. WEBB, of the Stock Exchange and Finch-lane, been dealt in as follows († exceptional amount at special prices):—Alliance British and Foreign, 28⅜; Imperial Fire, 150; London, 62; London and Provincial Marine, 4¼; Rock Life, 8, 8 1/16; Universal Marine, 10⅜. There is little or no business doing in insurance shares. For closing prices see list on last page of Journal.

THE WEEK.

SATURDAY, DEC. 20.—The recent fall in Mexican railway shares was checked to-day, and a good advance marked. The 1st Preference closed ½ higher, at 17 to 17½, a dividend being announced of 8s. per share. It is understood that hereafter the full dividend of 8 per cent. may be looked for. Grand Trunks maintain the previous day's recovery. The ordinary improved ⅜, to 14⅝, the 1st Preference advancing 1, to 67, and the second ¼, to 48. Home railways were quite in comparison w ith Friday. No advance exceeded ⅜, and in one or two instances there was that much fall. Erie shares fell ⅞. In mines there was an active business done in Parys Corporation shares at prices ranging from 1½ to 1⅝.

MONDAY.—Mexican railway shares further advanced. The Second Preference rose 1, to 12*l.*, the first ½, to 18*l.*, and the ordinary shares ⅜, to 5½. It is expected that with the New Year an active business will be done in Royal Swedish, Royal Sardinian, and Lima. Atlantic and Great Western Mortgage Bonds largely bid for, and the Firsts advanced 1¾ on the day, to 52*l.* Egyptian State Domain being quoted; ex. two, coupons, looked so low as to tempt a large investment business, and the bonds closed 1½ higher. The preference advanced ⅝, but the Unified only ¼. In home railways the business done was but moderate, no fluctuation exceeding ⅜. Parys Copper shares were barely so good, closing 1 to 1¼.

TUESDAY.—Nearly every security in the American market had a rise. Erie shares rose 81⅝, and the Second Mortgage 1*l.* Illinois Central advanced 82, and Reading General Mortgage 1*l.* Atlantic and Great Western Mortgage Bonds were particularly firm. The first mortgage, but 50½ on Monday, realised 54½ to-day. The Second Mortgage advanced 1½. Home railways were fairly strong. The greatest rise was in Dover A, which advanced 1¼ on the day. Parys Copper recovered from the previous day's dulness, and at the close of business could be sold at 27s. Flagstaffs rose to 1⅜, 11⅝.

WEDNESDAY.—At the opening of the market Parys shares were in strong demand at 35s., and Flagstaff at 1½. The railway traffics issued to-day showed a marked increase on those of last week. North-Western showed again an enormons increase, and for once Caledonian had an increase—1011*l.* The North British return showed a decrease of 1*l.* Great W stern had a decrease, which was unexpected, and caused the stock to relapse. Atlantic and Great Western First and Second Mortgage further advanced, and the Leased Bonds, 1873, rose 2*l.* Egyptian Unified rose ⅜, and there is now a very large account open for a further advance.

THURSDAY (Christmas-day).—Stock Exchange closed.

FRIDAY (Boxing-day).—Stock Exchange closed. FERDINAND R. KIRK.

FOREIGN MINING AND METALLURGY.

The rigour of the winter in Belgium has given confidence to Belgian coalowners, and they are calculating upon a fresh advance in prices in January. The sugar manufacturers, who will have a good season this year, are anxious to secure supplies of coal. On the other hand, the coalowners are anticipating the lighting of blast-furnaces and the erection of new works, so that they show little inclination to part with more than a third of their production at present. Prices are beginning to rule high; unwashed coke is stated to have made 20s. per ton in the Charleroi basin. There is a scarcity of rolling stock, but the thing is so natural that complaints are scarcely thought of. At the same time the railway companies are pressed to hire more trucks, as they can be obtained at 2s. to 3s. per truck per day. Although wages have been advanced of late, about 3000 colliers of the Bormage have gone on strike; it is, however, hoped and expected that the men will soon resume work.

In the Grand Duchy of Luxembourg white pig is now quoted at 48s. per ton, This quotation presents an advance of about 50 per cent. as compared with the rates current during the late crisis in industrial affairs. The Italian Ministers of Finance and the Navy have presented to the Italian Chambers a Bill for the working of the ironstone found in the island of Elba and in the Maremmes, in Tuscany. It is proposed to found a great metallurgical establishment for the treatment of the iron required for the Ministries of Marine, War, and Public Works. The Italian Government has received offers from Italy and abroad for the working of the ironstone in question, but no decision has yet been arrived at as to the acceptance of any one of these proposals.

It is long since Paris has had to endure such persistent cold. Coal merchants have experienced some difficulty in meeting the large demand which has arisen in consequence; but it is satisfactory, from a consumer's point of view, to know that supplies are far from being exhausted. The current price of household coal delivered in Paris is 45s. to 48s. per ton. In the Nord and the Pas-de-Calais, as at the other French coal basins, orders abound at present, and railway communication affords just now the only means of executing them. It is not surprising, under these circumstances, to find coalowners complaining of a scarcity of rolling stock on the great trunk railways. French intelligence has, however, not failed to discern that it would not be reasonable to expect the great French railway companies to immobilise a large amount of additional capital for plant required only at exceptional periods.

Careful investigation having proved that the majority of railway accidents in Germany during the severe frost of the present as well as past winters has been due to the cracking and breaking of wheel tires, the German Railway Administration Union has resolved to offer a prize of 10,000 marks (about 500*l.* sterling) for the best method of adjusting tires in such a way as absolutely to prevent their becoming dangerously damaged. There is nothing in the announcement to show that English merchants may not compete.

It is stated that the Italian Minister of Finance has prepared a Bill providing for the working of the iron mines in the Island of Elba and on the Tuscan coast. It is intended to erect a large series of metallurgical establishments in the vicinity for supplying the requirements of the Italian army and navy public works.

GREAT HOLWAY.—Progress is extremely satisfactory. The lead and blende from the Garden shaft are of splendid quality.

PRICES OF COPPER, TIN, AND LEAD.—Attention has been particularly called in the *Mining Journal* during the last six months to the favourable movements in the prices of these metals. More especially have readers been kept well informed weekly regarding the upward movement in the price of pig-lead, and the reasons why greatly enhanced quotations were to be expected have been carefully pointed out. There is still every probability that a further considerable rise will take place early in next year. *Tin*, it has also been clearly shown, was likely to advance, and from all that can now be gathered much better prices are still likely to be paid in the coming twelve months. *Copper* is at last making a move, and an enormous amount is now being consumed for home industry and the export trade. From the latest information obtainable it may safely be concluded that early in the next year we shall see a considerable advance on present low quotations. As stated last week, it is generally felt that the New Year will open prosperously for all.

The PHOSPHOR BRONZE COMPANY have in consequence of increased business removed from Cannon-street to more commodious offices and works at Sumner and Emerson-streets, Southwark.

We are requested to state that Mr. GEO. G. BLACKWELL, minerals, chemicals, and colours merchant, has removed from Hargreaves-buildings to Richmond-buildings, Chapel-street, Liverpool.

CAPPER PASS AND SON, BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS, ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c., and DROSS or ORES containing COPPER, LEAD, AND ANTIMONY.

HENRY NUTT AND CO.,
57, BRISTOL ROAD, BIRMINGHAM
PURCHASERS OF
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, TIN ASHES, TERNE ASHES, AND ALL REFUSE CONTAINING TIN AND LEAD.

GEO. G. BLACKWELL,
26, CHAPEL STREET, LIVERPOOL,
PURCHASER OF
MANGANESE, ARSENIC, FLUOR-SPAR, WOLFRAM, BLENDE, CALAMINE, CARBONATE and SULPHATE OF BARYTES, ANTIMONY ORE, CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE, OCHRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS, TALC, PHOSPHATE OF LIME, &c.

HENRY WIGGIN AND CO.
(LATE EVANS AND ASKIN),
NICKEL AND COBALT REFINERS,
BIRMINGHAM

C. H. WALKER AND CO.,
MINING AGENTS AND ENGINEERS
VALPARAISO AND SANTIAGO,
CHILE.

JACKSON AND BUTTERFIELD,
ANALYSTS AND ASSAYERS,
Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores. ASSAYING TAUGHT.
106, QUEEN VICTORIA STREET, LONDON, E.C.

J. S. MERRY,
ASSAYER AND ANALYTICAL CHEMIST,
SWANSEA.
SUPPLIES ASSAY OFFICE REQUIREMENTS AND RE-AGENTS.

IMPORTANT NOTICE.

IN ACCORDANCE with the "Explosives Act, 1875, Section 77, all occupiers of Factories, Magazines, Stores, and Wharves shall post up NOTICES warning trespassers of their liability to penalties under this Section. Unless such notices are posted up occupiers are liable to a HEAVY PENALTY under this Section.

Speedy applications should be made for notices complete, complying with all the requirements of the said Act, and may be obtained from JOHNSON AND CO., Dynamite Agents, Dudley.

THE PHOSPHOR BRONZE COMPANY
(LIMITED).
SUMNER AND EMERSON STREETS, SOUTHWARK,
LONDON, S.E.

The GREAT INCREASE in the PHOSPHOR BRONZE COMPANY'S BUSINESS has necessitated their taking MORE COMMODIOUS OFFICES and WORKS at SUMNER and EMERSON STREETS, SOUTHWARK, LONDON, S.E., to which address all communications should in future be directed.

December, 1879.

NANT-Y-MOCH MINING COMPANY
(LIMITED).
Capital £10,000, in 10,000 Shares of £1 each.

Prospectuses and Shares may be obtained on application to Capt. A. FRANCIS, M.E., Goginan, Aberystwith; or from ERNEST W. S. MURRANT, Esq., 8, St. Benét-place, London, E.C

THE BIRMINGHAM RAILWAY CARRIAGE AND WAGON COMPANY
(LIMITED
MANUFACTURE RAILWAY CARRIAGES and WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by IMMEDIATE or DEFERRED PAYMENTS. They have also WAGONS FOR HIRE capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.
MANUFACTURERS also of IRONWORK, WHEELS, and AXLES.
EDMUND FOWLER, Managing Director.
WORKS,—SMETHWICK, BIRMINGHAM.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 24	Monydd Gorddu	20	£16 0 6	Goodhart and Co.
	—East Roman Gravels	30	12 15 6	Sheldon, Bush, and Co.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

Lake Superior Copper Mines.—The letters received for "H. B.," addressed to the *Mining Journal*, in reply to his advertisement, have been forwarded to Lake Superior, so that answers will probably be received in about 25 days.

The Tavistock District.—All must agree with your remarks, expressed in last week's Journal, on this subject. I know of valuable mines lying idle for the want of capital which would prove an investment (if properly worked) of no mean character. In particular I could refer to a property adjacent to Tavistock where, for the outlay of (not exceeding) 200*l.*, a steady and ever increasing profitable return may be made. In another mine, also adjoining Tavistock, water power is abundant for all purposes, and the prospects are exceedingly good, and here likewise a small amount would prove sufficient. It is a pity that capitalists, brokers, financiers, and those in a position to do so do not inspect this district.—Miner.

Telluride of Gold.—Could any correspondent through the columns of the Journal inform me which are the best practical works on the Metallurgy and Treatment of Telluride of Gold as found in Colorado.—X.

Received,—"H. C." (Pateley Bridge) should write to the Secretary, who will readily explain as to the difference in price—"Carn Brea" (South Frances)—"Shareholder" (Wheal Crebor)—"Constant Reader" (Newport)—"A. M." (Ontonagon)—"E. M. D," (Philadelphia)—"N. E." (Industrial Resources of China): In the Journal during May last—"Shareholder" (South Frances): We have a letter for Mr. J. T. Dyer, St. Stephen's Coombe, which has been returned through the Post Office; will he say where it can be addressed to reach him—"Old Hand" (St. Austell)—"R. W. M." (Frome)—"Shareholder" (Wheal Grenville)—"Another Shareholder" (South Frances): Unauthenticated communications are not of much value in matters of opinion. Time will prove who is right as to the next dividend—"G. R." (Water Power for Mining Purposes)—J. E. Dyer, Grampound-road)—"R. S." (How a Londoner was Tricked)—Mining in Ireland—No. II. (Conversation between a Father and Son)—"J. B." (The letter would have appeared but for a pressure of matter—"J. R." (Cleveland Steel).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, DECEMBER 27, 1879

THE MINING AND IRON AND STEEL INDUSTRIES OF CUMBERLAND.

In no part of the kingdom are the mineral products more varied and valuable than in Cumberland, there being deposits of lead, zinc, the finest of hematite ironstone, and coal. In the production of iron ore the county stands second only to Cleveland, whilst the value of a ton of it is nearly four times as much, for it is used principally for converting into steel of the finest descriptions, which is most extensively used by Sheffield manufacturers. The principal supplies are obtained from the Whitehaven district, where the stone is harder and more compact than that of Furness. The ore appears to have been originally deposited as carbonate, partly displacing the limestone, and partly in previously existing caverns, the probability being that it is younger than the carboniferous limestone and older than the greater portions of the permians. Some of it, however, occur in veins in the lower silurian; but the deposits are larger and purer in the mountain limestone, where it is found in flat beds, which follow more or less the "dip" or veins, and filling up original hollows. The principal mine in the county is the Montreal, in the Whitehaven district, which last year yielded 225,413 tons of ore, the next to it being the Crossfield, which produced 122,004 tons—the former belonging to Mr. J. Stirling. Lord Leconfield is also the owner of several mines, whilst others are worked by companies, including the Eskett Iron Ore Company, the Cumberland Iron Mining and Smelting Company, &c. Since 1872 there has been a considerable increase in the number or mines, whilst some of the older ones have been more fully developed, so that the productive power has greatly increased, although during the greater part of the present year the consumption had so far declined that some of the few pits were standing for a time. The output of the various mines during the past few years was as follows:—

Year.	Tons.	Value.
1871	1,302,703	£1,448,975
1872	917,452	1,141,416
1873	1,229,826	1,536,708
1874	1,119,666	1,375,501
1875	1,147,968	869,976
1876	1,355,910	996,046
1877	1,351,441	965,301
1878	1,357,886	899,484

It will be seen that in some years the value of the stone has exceeded 1*l.* per ton. Last year, however, it was only about 13s., but recently it has again gone up, although it was expected that the Thomas-Gilchrist process would seriously damage the trade in fine hematite. So far, however, it has not done so, and the probability is that it will not much interfere with it, seeing that for the finest qualities of cutlery, tool, and spring steel it is not likely to be supplanted by anything that can be produced in Cleveland or with Cleveland stone. In the making of pig there has been steady progress made, even during the last two or three years, which is more than can be said of most ironmaking districts, for the quantity made last year was in excess of any previous year, the tonnage having been as follows:—

1871	Tons 336,569	1875	Tons 486,112
1872	440,575	1876	436,887
1873	456,877	1877	538,156
1874	390,840	1878	542,904

In utilising what has been considered the waste of the furnaces—the slag—some of the leading makers have not been behindhand, for it has been used for making bricks at the Moss Bay Ironworks, and by a process that deserves special mention. By the system adopted bricks are made without the addition of lime. The slag is broken into pieces sufficiently small to pass under massive edge runners, by which it is pulverised, and then passed by elevators into French burr millstones. From the stones it passes directly into the brick press without any admixture of lime or any other aid except having some water thrown on to it before pressing. The brick press has a rotary table, and the material is fed into moulds recessed into it. The pressure is given from above by a self-acting cam put in action by the continuous rotary motion of the table, and the bricks come out well pressed, and of excellent shape and good quality. It now appears that the large amount of lime made in the production of Bessemer iron seems to be sufficient when treated in the way stated to re-unite the pulverised slag, and to "set" in a remarkable manner, evidently owing to its taking up a large amount of water, forming a hydrated compound of silica of lime and alumina, so re-uniting the mass in the same way as ordinary cement. It may be said that some of the furnaces erected during the last few years were much larger and more productive than the old ones. Thus, we find that in 1872 and 1873 there were 34 in blast, and in 1876 but 27. During the present year, however, there was even a less number than the last named, for of the 46 built only 25 have been in blast, and they are as undermentioned:

	In blast.	Out.	Total.
Lonsdale Iron Company	3	1	4
Cleator Moor Iron and Coal Company	2	3	5
Distington Hematite Company	—	2	2
Parton Hematite Company	—	2	2
Harrington Iron and Coal Company	2	2	4
Moss Bay Iron and Steel Company	3	0	3
Derwent Iron Company	3	0	3
Lowther Iron Company	0	2	2
Workington Hematite Company	0	5	5
West Cumberland Iron and Steel Company	4	2	6
Maryport Hematite Iron Company	6	0	6
Solway Hematite Iron Company	2	2	4
Totals	25	21 =	46

Of late, however, it should be stated that some of those which have been out have of late been got ready for working since the reaction in the iron trade commenced, while some of the 25 now in have not been working all the year. There is, however, every likelihood that the new year will see several more of the furnaces in full operation.

Steel making by the Bessemer process has been carried on during the last four or five years, but as yet to a comparatively moderate extent. The Moss Bay Hematite Iron and Steel Company have two 7-ton converters in operation, and the West Cumberland Iron and Steel Company, Workington, two 8-ton and two 6-ton converters. But the trade is likely to be extended.

The Cumberland coal field is not an extensive one, but the mineral itself is good, there being some extensive mines in Whitehaven, Workington, and Maryport. The total length of the field is about 20 miles, and the greatest width 5 miles. A good deal of coal lies under the sea, and so far back as 1793 it is recorded that the seams so placed were worked. A good deal of the coal goes to Ireland. At Maryport, below the lower red sandstone, there is a seam known as the ten-quarter coal, 7 ft. thick, whilst the Bannock band seam at Workington is nearly 6 ft. thick, the average thickness of workable coal being 35 ft. In 1869 there were 26 collieries, which produced 1,410,808 tons of coal, which is certainly not a large quantity as compared with other districts, being only an addition of three since 1851, when the output was 809,400 tons. In 1875 the production had fallen to 1,171,341 tons. A marked increase, however, took place in 1875, when the 35 collieries turned out 1,515,783 tons, but last year there was another decline, the production of 31 collieries having been only 1,388,233 tons. Of that quantity there were shipped (principally to Dublin) to home ports 496,999 tons, whilst 550,000 tons were consumed at the ironworks. With the moderate amount of coal raised the reserves in Cumberland are large, being estimated at 410 millions of tons, of which nearly 100 millions of tons are under the sea.

Cumberland has long been noted for its lead ore, which contains a fair percentage of silver, the principal mines belonging to the London Lead Company, who work about a dozen mines, and who raise about one-half of what the county is credited with. Like other districts, however, so far from the yield increasing year by year it has been quite the reverse, whilst there has been a marked decrease in the number of mines worked. The production of ore has been as follows:—

1866	Tons 5,621	1875	Tons 2,128
1867	5,682	1876	2,555
1872	3,721	1877	3,040
1874	2,102	1878	2,667

It will be seen that the yield last year was not half what is was in 1866. This is not the result of the exhaustion of the mines, but there does not appear to be that amount of speculation in the lead mines of Cumberland that there is in some less important districts; but, now that the trade is looking so much healthier than it has done, and with the advance in the value, we may expect to see the county again assuming something like its old position as a lead producer.

Next to Cornwall there is more zinc produced in Cumberland than in any other county in England, yet the quantity raised has varied a great deal from year to year, and has fallen off a great deal since 1872. This will be seen from the undermentioned figures, showing the tonnage raised for several years past.—

1872	Tons 2,116	1876	Tons 1,366
1874	749	1877	1,731
1875	1,892	1878	1,566

Amongst the other minerals peculiar to Cumberland are barytes and fire-clay, of which there was a fair output during the last year.

COAL CONTRACTS—INTERESTING CASE.

The Court of Appeal at Lincoln's Inn was occupied last week in hearing and deciding a case of some importance as well to those engaged in the specific transactions dealt with in the suit as to the general public.

The case to which we refer—Dunkirk *v.* Lever—arose in this wise. The plaintiffs in the year 1875 sold to the defendant 15,000 tons of "round" cannel, to be delivered at the rate of 300 tons per week over a period of twelve months—26s. per ton in wagons at the pit. The formal stamped contract settling this bargain was, as usual, preceded by some correspondence, in which the main features of the business were discussed, one of them being that the purchase should cover the produce of two collieries—the Dukinfield as well as the Dunkirk—over the cannel, in both of which the latter company had the control and disposition. It would appear that when the actual contract was prepared the word Dukinfield was left out, the defendant, when signing the same, either not noticing this or relying upon what he deemed the prior understanding with the sellers. Be this as it may, when the time arrived for commencement of deliveries under the contract—which the defendant, as we see, assumed to include both pits—it was discovered that the cannel from the Dukinfield one was being offered within the districts reserved to him for the exclusive sale of this cannel. Thereupon Mr. Lever protested, and at once refused to go on with the contract unless its originally well-understood conditions were carried out. Then began a suit which, under one form or another, has endured for the last four years.

On the contract itself the defendant was beaten both on the original hearing and on the appeal; perhaps naturally so, in any case legally or lawyerly so, for there was the stamped contract dear to the minds of law magi; and as far as we have studied the reported proceedings we do not find that the contract itself was ever contested by Mr. Lever to any greater extent than sufficed to show his own interpretation of it to have been *bona fide* or unvarying and reasonable from the very start.

The interest of this suit to the public is not, we repeat, in the contract, so much as in the mode adopted for ascertaining the damages which the breach of the contract superinduced. Here we have one of the most remarkable instances—not, perhaps, of the law's delays, though they were not wanting—as of the law's caprices, uncertainties, and contradictions. After the Master of the Rolls, before whom the plaintiffs brought their action primarily, had adjudged the contract to be broken, he decided that, the better to help him to assess the damages—which could not be arrived at very well by inward cogitation in Chancery-lane—the question of damage should be referred to a barrister, who should sit and hear oral evidence down in Lancashire, and report to the Court above thereafter. This was done. The referee said that after careful attention to the case he awarded 2917*l.* 10s. to the plaintiffs as the amount of damages to which they were fairly entitled. So far the ends of justice appear to have been sought in a very intelligible manner; this referee machinery seems not only very reasonable in itself, but to have done its work reasonably and impartially. The learned referee would have been justified in awaiting from the Master of the Rolls not only a general confirmation of his award, but—if such things be permissible from big legal pundits to smaller ones—a word of recognition to the referee for his work. But the referee if he expected bread—though very likely he did not—received in lieu thereof a neat serpent. Sir George Jessel treated both him and his finding as though they had never been, and gave the Dunkirk Company the whole amount for which they sued. Babes and sucklings in law will imagine that this is a queer decision, and so did the defendant, who appealing asked the Lords Justice what they thought of it. Their lordships thought the Master's judgment queer, and set it aside; but they also thought, at the same time, that perhaps the referee had blundered, and not Sir George Jessel, and to the former they virtually, by remitting the case back to reference, said—Try again. We must be short with our history. The referee did try again; on this occasion with an augmented benefit in favour of the Dunkirk Company and against Mr. Lever of 600*l.* over his first assessment. Surely now we see the end. Vain expectation. The Master of the Rolls remains stolidly by his opinion. He has pronounced and he stands fast, again abiding by the judgment for the full amount. An adventurous litigant—remembering what the Court of Appeal had done before, when it reversed the order of the Master of the Rolls—would have gone with a cheerful heart for consolation to the Lords Justices this time. This was Mr. Lever's idea. But he appears to have reckoned without his host, for his appeal has been dismissed with costs.

We are not writing either to sympathise with this gentleman, or the reverse. The law is fearfully and wonderfully administered; and in fear and wonder we contemplate its manifold surprises, developments, entanglements, and contradictions. If a court of equity, as one can easily see, is not the best mechanism for assaying damages in contract breaches, and if it admits this defect by deputing its work to fitter implements, adopted because they are fitter, how very ungrateful and heartless seems the process of using these implements only to dishonour and discredit them at the last! It seems to us that the costs of this case—to say nothing of the weariness of the flesh to both plaintiffs and defendant—have been wantonly aggravated by the ostentatious calling in of collateral physicians whose physic was thrown to the dogs.

IRON IN THE UNITED STATES.

If we are to believe the trade advices which reach us from the United States, two circumstances stand out in bold relief in connection with the American iron trade. The first of these circumstances is the great and continued activity of the demand for railroad *materiel* in the American Republic. This activity in the demand is further sending up prices in Pennsylvania; and in anticipation apparently of yet higher quotations Pennsylvanian ironmasters show little inclination to take orders far in advance. The second circumstance is the languid demand which now prevails for both English and Scotch pig in Pennsylvania and at New York. The pressure for pig and scrap—if we may believe the testimony of American witnesses—become less urgent upon the American markets, and accordingly such foreign pig as has come to hand has either gone into stock or has been disposed of at little or no profit. This is the American version of matters. Perhaps American ironmasters may endeavour to give the cue to the market by setting about such statements as these, as it may suit their purpose to discourage importations of foreign pig. Still, we confess that the balance of current facts and current statistics appear to support the American view of the case.

We say this because the pig-producing resources of the United States are undoubtedly very considerable, and are not by any means fully utilised at present. The tide of prosperity began to flow all at once in the American iron trade, and American ironmasters were, so to speak, caught napping, and were compelled to cast about for supplies wherever they could find them. In the autumn of 1879, when the rail mills of New York, Ohio, and Pennsylvania began to put forth their whole strength, a large number of the blast-furnaces of the United States were out of blast, and they could not be brought into activity all at once. But the number of American blast-furnaces in operation has increased since August almost week by week, and their aggregate production is now very much larger than it was in August or September. This being the case, American ironmasters must *prima facie* be in much less need of foreign pig than they were three months since. The only circumstances which tells in favour of a continuance of a demand in the United States for the products of foreign metallurgy is the fact that all the best conditioned American railroad companies insist upon having steel rails, and the means of producing Bessemer pig among the Americans may still prove inadequate. For Bessemer pig and steel rails there may still be some chance of an American demand, but we cannot see much prospect of there being any well sustained American enquiry for ordinary English and Scotch pig or iron.

Americans affect, indeed, to smile at the credulity with which they assert Englishmen have received the temporary revival noted in the American demand for English products. Because there has been some little enquiry for English Bessemer pig and steel rails, therefore it has been assumed by some Englishmen that English rails had regained a footing upon the American markets. This is pronounced by American writers to be a great mistake, and nothing more or less than a fond delusion. And certainly there appears to be a good deal of force in the American view of matters. American metallurgy has acquired a vast development, and Americans will undoubtedly give preferential support to Americans when it is at all possible for them to do so. The permanency or otherwise of an American demand for our metallurgical products of any kind appears to depend, after all, upon the cheapness with which they can be produced. Still the present activity of the American iron trade has imparted animation to metallurgy throughout the world, and that is something.

NEGLECTING TO FENCE OFF DANGEROUS PLACES IN MINES.

IMPORTANT TO MINE MANAGERS.

A most important case was heard a few days since before the Barnsley Bench of Magistrates with respect to the neglecting to fence off a dangerous place in a mine. The case was brought forward by Mr. F. Wardell, the Government Inspector of Mines, who charged John Roebuck, underground viewer at the Barrow Hematite Company's Silkstone Colliery, with neglecting to fence off a place that led to the main shaft, whereby a man was killed. The evidence shows that Fisher, a hurrier, not well acquainted with the place, was working for a coal getter in the Thorncliffe Seam nearly 70 yards from the shaft to the Silkstone beds. Near that part of the upcast shaft where the Thorncliffe coal is worked is a hole about 3 ft. which was not fenced off, and on Fisher going to enquire for the underviewer, fell down the hole to the bottom. This happened on Oct. 31, but he was not found until Nov. 2. Up to about three weeks before the accident two doors leading to the place had been kept locked, but the company having commenced to work two new bords the doors were left unlocked to allow of the coal being trammed. The deceased took the wrong turning, and went through the doors.

We quite agree with Mr. Wardell that there could be no valid excuse for the negligence, and that he was justified in proceeding. Working miners are frequently prosecuted and sent to prison for comparatively trivial offences even when there has been no personal injury, and for that very reason managers, who are supposed to be more intelligent, should not be allowed to escape. It is to be feared that to these thoughtless acts of persons placed in positions of trust many accidents are to be attributed, and nothing, in our opinion, can extenuate, and nothing can justify, any departure from the general or special rules. In no employment is the strictest discipline and the greatest watchfulness in carrying out even what may appear as trifling details more necessary than in coal mines, for even with the strictest management accidents at times are unavaidable. But it is very different with respect to those that are avoidable. The Barnsley magistrates, we may say, are considered somewhat severe when miners are charged before them of breaches of bye-laws, generally sending them to prison in the interests of the great body of those engaged at the collieries within their jurisdiction, many of which are known to be most fiery, and where some of the most terrible explosions known have taken place. The Bench, after some deliberation, considered the charge as proved under section 61. Roebuck was accordingly committed to prison for a month. As the same section of the Act allows of appeal being made, notice was accordingly given by the defendant. What the ground of appeal will be of course rests with Roebuck and his legal advisers. But for our own part we can only regret that such a prosecution was considered necessary, and should Roebuck prove, on appeal, that he was not to blame in the matter, we shall be most happy in recording the fact. At the same time we think that the Inspectors of Mines, irrespective of persons, should bring all cases before the magistrates when they consider there is *prima facie* evidence of a breach of the Act of Parliament calculated in any way to endanger the safety of all persons following such a dangerous employment as coal mining.

In connection with the same case Mr. C. Beevors, the certificated manager, was proceeded against for not enforcing by the best means in his power the rules and regulations for the safe working of the mine. It appears Mr. Beevors had only been appointed certificated manager about three days before the fatal accident, and could not be expected to be acquainted with all which related to the different working places; the magistrates consequently ordered him to pay a fine of 5*l.* The appeal of Roebuck will be heard in January. It is to be hoped such prosecutions will be the means of ensuring the

greatest care on the part of those into whose hands the lives of large bodies of workmen are placed.

THE COPPER TRADE.—There is now a stock of Chili bar copper landed in Liverpool and Swansea greatly in excess of anything previously known in the history of the copper trade :—

	Stock landed in Liverpool and Swansea.	Afloat to Europe, Dec. 1.
1879	Tons 29,567	Tons 9747
1878	19,877	6024
1877	13,767	3614
1876	12,488	3200
1875	11,059	5226

There is a decrease in the stocks of Chili ores and regulus of 2700 tons for 1879, which is more than made up for by the large imports of precipitate from Spain and Portugal, which now exceed 1000 tons of fine copper per month.

AMERICAN BULLION PRODUCTION FOR 1879.—The Director of the Mint estimated the production of precious metals in the United States during the year 1879 as follows:—California, gold, $17,600,000, silver, $2,400,000; Nevada, gold, $9,000,000, silver, $13,560,000; Colorado, gold, $3,225,000, silver, $11,700,000; Utah, gold, $575,000, silver, $6,250,000; Montana, gold, $2,500,000, silver, $2,225,000; Arizona, gold, $800,000, silver, $3,550,000; Dakota, gold, $2,420,000, silver, $10,000; Idaho, gold, $1,200,000, silver, $650,000; Oregon, gold, $1,150,000, silver, $20,000; New Mexico, gold, $125,000, silver, $600,000; Michigan, silver, $780,000. Other domestic sources, gold, $305,000, silver, $67,000. Grand total for the United States and Territories, gold, $38,900,000; silver, $40,812,000. The estimates of the total production of gold and silver place the amounts nearly equal, a slight excess being in favour of silver. As the mines are at present yielding the excess ought to be in favour of gold. Nearly all the ores classified as silver ores contain a proportion of gold, some of them in an amount equaling one-half, and there is a lull in absolute silver production which tends to increase the proportion of gold in the total product.

LIABILITY OF COLLIERY MANAGERS.—At Rotherham, on Monday, before Mr. G. W. Chambers (Chairman) and other magistrates, a decision was given with reference to the liability of certificated colliery managers for the acts of their servants. Mr. Thomas Holford, one of the proprietors and the certificated manager of the Waleswood Colliery, was charged upon two informations which had been laid by Mr. F. N. Wardell, the Government Inspector, under instructions from the Secretary of State, with neglecting to report two separate slight explosions of gas which occurred at his colliery on Oct. 17 and 28 respectively. The informations were laid under the 39th section of the Mines Regulation Act, which requires that notices of all such explosions should be sent within 24 hours from the time of their occurrence to the District Goverment Inspector. The liability for the first offence was not denied, though it was pleaded as an extenuating circumstance that the defendant was ill at the time. In the second case, it appeared that the explosion was very slight, and that the underviewer had not entered it in his book. Therefore the defendant knew nothing about it, and it was contended on his behalf that if any one was to blame for the explosion not being reported it was the underviewer. The Bench fined the defendant 5l. and costs for the first offence. They felt bound to convict in the second case, but imposed only a mitigated penalty of 1s. and costs.

MR. EDISON AND THE ELECTRIC LIGHT.—The Times Correspondent, writing from Philadelphia (Dec. 22), says:—Mr. Edison, the inventor, claims to have discovered an effective, cheap electric light, which is a complete substitute for gas for household use. After 15 months' experimenting, Mr. Edison accidentally discovered that burnt paper is the best substance to use, and he, therefore, abandoned platinum, devoting himself to perfecting this lamp. He cuts from cardboard a narrow strip, shaped like an elongated miniature horseshoe, the strip being 2 in. long and $\frac{1}{8}$ in. wide. This is placed in a wrought-iron mould, which is heated slowly to a white heat, driving off all volatile portions of the paper, which is then gradually cooled. The charred remains of the horseshoe are taken carefully out, and are placed upright in a little glass globe, the wires of the generating machine being attached at the ends of the horseshoe. The air being exhausted from the globe, it is sealed, completing a lamp costing about one shilling. This, Mr. Edison claims, will produce a bright, mellow light, without flickering or pulsations. He has also invented a generator and regulator—his claim being that he has entirely solved the problem. I have not seen the lamp, it not being open to public exhibition yet.

RELIABLE AND ECONOMIC ELECTRIC LIGHT.

THE "BRUSH" SYSTEM OF ELECTRIC LIGHTING.

The various systems of electric lighting from time to time introduced or proposed have been so fully referred to in the *Mining Journal* that the merits and defects of each must be pretty well understood; and probably the conclusion will have been generally arrived at that although the modifications have been numerous the real progress made has been extremely small. The various incandescent light which have received attention during past few years are practically the same as those with which we were acquainted in 1845, and with regard to arc lights, although the Jablochkoff had unquestionably the merit of simplicity and novelty the fact of its involving the use of alternating currents to make the two carbons in the candle burn equally gave rise to a series of conditions which dispelled the hope that the system would be permanently successful. Alternating currents and waste of power and of electricity are inseparably connected, as will readily be understood when it is considered that although the period of time required for magnetising and demagnetising is immeasurably short (as is evidenced by the circumstance that in the Gramme machine there are fully 800 reversals per minute—the time for demagnetising and remagnetising being represented by a small portion of this fraction of a minute) every reversal results in a loss of engine power—that is to say, in the consumption of engine power without obtaining equivalent useful work—which in the aggregate amounts to a sum that makes electric illumination upon that principle commercially impracticable.

It must have been almost obvious to most electricians, however much they may have hoped that they might be mistaken, that to make electric lighting a success it was necessary to construct an arc-light regulator or lamp, as it is more popularly called, as simple and at least as cheap as the lamps on the incandescent systems, and one with which a continuous current could be used, for it must be remembered that when the electricity is obtained from any dynamo machine it is for continuous currents simply necessary to generate the supply required to compensate for the actual consumption, all the residual current being utilised; but for alternating currents there must be so much electricity generated as is required to make up for the loss of residual current at each reversal. These are the kind of facts which appear, from the results obtained, to have been most carefully kept in view by Mr. C. F. Brush, from whom the Brush system of electric lighting takes its name, and consequently he has produced a really reliable and economic electric light; indeed, the first, and thus far the only practically and commercially successful and economic system of electric lighting which has yet been exhibited. Hitherto the best results obtained appeared to lead to the conclusion that 1½-horse power indicated would have to be accepted as the minimum power required for each light, and that five lights on a circuit was practically the limit even when all the conditions were favourable, whilst in many cases 1½-horse power per lamp represented but a small fraction of the power actually consumed.

The Brush system shown in operation on Tuesday evening by the ANGLO-AMERICAN ELECTRIC LIGHT COMPANY, at their works in Hatton Garden, showed very conclusively that both these views were erroneous, for 18 lights, each of 2000 candle power, were maintained on a single circuit with a 16-light Brush machine, driven by an 8-horse nominal engine, using 60 lbs. pressure of steam (and frequently a few pounds less), and yielding on Tuesday evening almost exactly 13½ indicated horse-power. The generators, the lamps, and the carbons are all the invention of Mr. Brush, and it is by the use of the three in conjunction with each other that the excellent results noticed have been obtained. The Brush dynamo-machines differ essentially in construction from all others in the armature, in the arrangement of the field magnets, in the commutator, and in the novel mode of connection, thereby producing from a given amount of power a larger available current than has hitherto been obtained from any other combination. At the same time, the mechanical construction is such that the wear and tear is reduced to a minimum, the wearing parts (the segments of the commutators and brushes) being easily replaced when necessary by an ordinary mechanic at a trifling cost.

Another advantage which the machines possess is that they may be run for any number of hours continuously, and do not overheat or become less effective through continued use; further, by a special regulating attachment any smaller number of lights than the maximum that may be required can be employed, absorbing proportionately less power. The current derived is continuous, and of such a nature that it can overcome great external resistance. On Tuesday evening the 16-light Brush was, with the horse-power already mentioned, running at a speed of between 700 and 750 revolutions of the armature per minute, and was generating ample current for 18 lamps, which were temporarily used, although the 16 lamps which were used during the greater part of the evening are said (though the difference is not appreciable by the naked eye) to give the maximum of candle-power. The whole 21 lamps were on one circuit, which, by the use of a simple shunt, was constantly varied (though with no apparent difference of effect) from 250 ft. to 1½ mile, the arc in each lamp being 2 millimetres, or 1-12th in., in length, and each lamp consuming approximately 1½ in. (or allowing for wasted ends 2 in. of carbon per hour, the cost retail of the carbon being 4d. per foot.

The Brush lamps or carbon regulators have all the advantages of —indeed, are in some respects superior to—the Serrin, which has hitherto been regarded as the best arc lamp constructed, whilst it is vastly more simple, less liable to derangement, and probably not one-tenth the price. The peculiar features of the Brush lamp are simplicity of construction, ensuring ease of management, safety against internal derangement, and regularity of working. The lamps contain no clockwork or other similar mechanism, and no regulation or adjustment of any kind is required beyond that of renewing the carbons when consumed. By means of the magnetic control and automatic cut off each lamp, though in continuous circuit with many others, is independent in its working. Thus a mean length of arc, and equality of light and consumption of carbon is always maintained. The cut-off effectually guards against all dangers of general extinction; should any lamp in the circuit be accidentally injured or thrown out by consumption of carbon or other cause, the remainder are not affected. The simplicity of this cut-off could scarcely be surpassed, being merely a small electro-magnet, which is dormant so long as the lamp is in proper action, but the slightest irregularity permits a portion of the current to pass through the coil, pulls up the armature, and throws the lamp out of circuit. Should, however, the irregularity arise from a defect in the carbon, the lamp comes automatically into the circuit again as soon as the points regain correct position, which is of course the work of but an instant, the armature is released, and all goes on as before.

That the form of the lamp may be varied is so obvious that it need scarcely be mentioned. The lamp used on Tuesday evening, was the ordinary factory or general purpose lamp, which consists of a strong rectangular iron frame, containing the regulator, the carbon holders, and support for the globe, and is placed in proper position, and at the same time in electrical connection with the other circuit lamps and generator, by simply hanging it up to its board, and thus doing away with all loose wires and screw terminals. These lamps are constructed to burn about eight hours without renewal of carbon. The "double rod" lamps are a modification of the above, and are especially useful when a light is required for a longer period than eight hours continuously. These lamps contain two sets of carbon holders and carbon rods, ingeniously constructed with a single regulator, which only allows one pair of carbons to burn at once, but instantaneously and automatically throws the second pair into circuit when the first are consumed, or in the event of any accident occurring to the first pair of carbons, which would thenceforward remain dormant until the second pair were consumed. By means of these double rod lamps a system of lights may be maintained in continuous operation for 16 hours without requiring any attention, or by introducing three rods and three sets of carbons for 24 hours. It was very properly pointed out that the economical advantages of such an arrangement are very great in preventing waste or short lengths of carbon; for instance, in eight-hour lamps of other systems, when the lights are required (say) for periods of six hours consecutive, there is still carbon enough left for two hours, which is removed and wasted, whole new lengths being necessarily substituted for the next six hours' run, whereas with the new patent Brush lamps now introduced no removal of short lengths is necessary, thus effecting a saving of (say) 25 per cent. of carbon, for each pair would burn until consumed, when the next set is automatically and instantly substituted, not affecting the continuity of the light.

The importance of sound and reliable carbons is universally admitted, and it may safely be said that the difficulty of obtaining these contributed largely to cause the question of general illumination by electricity to remain so long in abeyance. The Carré carbons were the first to revive the hopes of electricians devoting themselves to the branch of electric lighting, and until now they have occupied the highest place in the market, the Carré carbon seldom assaying more than 1·5 per cent. of impurity, whilst the Siemens—the next best—shows less than 2·5, and sometimes considerably more, which may account for the spluttering and unsatisfactory light shown at the British Museum. These figures are merely given to permit a comparison to be made by those not familiar with the subject. The Brush carbons have been found by analysis in the laboratory of the Royal Institution to contain only 0·7 per cent. of foreign matter, whilst they approach so closely to absolute uniformity that in repeated observations, in a series of 16 lamps burning together at various times for many hours, no unequal consumption in any one of the lamps could be detected. The price at which it can be supplied is far below that of any other carbon in the market.

But whatever may be the scientific or theoretical recommendations of an electric light, the public would care comparatively little for them unless it could be shown that the use of it is pecuniarily advantageous not only to produce a given amount of light, but to replace the lights which are at present made to suffice for a given purpose; and it appears from the fact that, although the Brush system has been less than 12 months before the public, it is already in ordinary use, and giving highly satisfactory results in no less than 40 establishments—factories, ironworks, woollen mills, printing offices, parks, colleges, and hotels—in the United States, using together 487 lamps. In the Monumental Park, Cleveland, Ohio, 12 lamps illuminate an area of 12 acres, filled with trees, displacing 100 4½-ft. gas burners. At the Williamantic Linen Company's Works, Connecticut, in one room two lamps displace 65 5-ft. gas-burners, costing but 2d., as compared with 1s. 8d. for the gas per hour, estimating the gas at 4s. per 1000 cubic feet. At the Riverside Worsted Mills, Providence, Rhode Island, 48 lamps displace over 800 5-ft. gas-burners. Gas would cost, at 4s. per 1000 feet, 16s. per hour for the above mills. The Brush electric light, giving a better light, costs 1d. per hour per lamp, including interest, wear and tear, and all other expenses, or 4s. electricity to 16s. gas, showing an annual saving for (say) 2000 hours' work of 1200*l*.; a result so eminently satisfactory that they are now increasing the number to 80 lamps, and have given a very encouraging testimonial as to the work already done.

The comparison of the price of electric lights produced by other systems is even more favourable to the Brush arrangement than the comparison with gas, for whilst the published report of the Jablochkoff system on the Thames Embankment shows 5s. 4½d. per hour for 20 lights, or (say) 10,000 candle power, and with the Siemens system at the British Museum, 18,000 candle power costs 4s. per hour, the Brush system gives 32,000 candle power, distributed in 16 lamps for 1s. 10d. per hour—a result which cannot but be regarded as highly gratifying. It may, perhaps, be worth mentioning that the Brush system has been adopted by the Anglo-American Electric Light Company to replace the Farmer-Wallace system, which they first tried, but found to be practically inapplicable, owing to the large consumption of power, and that the change has been adopted by the directors on the recommendation of Mr. Edmonds, the company's engineer, who was much astonished with the economy and excellence of the light during his recent visit to America, and that the advantages were so speedily recognised by the board that the Farmer-Wallace machines have already been returned to America, although as a depositing machine their merits are generally recognised. On Tuesday evening the various details and advantages of the lamps were lucidly explained by Mr. Thos. J. Montgomery, the partner of the inventor and one of the directors of the company, and by Mr. G. R. Davies, the secretary. It really seems that in the Brush system the company have an arrangement which will be generally adopted in this country, and secure both honour and profit to those concerned. One of the directors—Mr. William Ladd—may be especially congratulated upon this, since his dynamo machine, which will be recollected by the visitors to the Paris Exhibition of 1867, was the prototype of the numerous machines of this class now before the public, and which have rendered electric illumination on a large scale practically possible. The progress of the Brush system will be carefully watched and duly recorded.

REPORT FROM CORNWALL.

Dec. 24.—Quiet as Christmas week is in mining, as in all other strictly business matters, it has this year an element of unusual satisfaction in the fact that the smelters have seen the desirability of withdrawing in effect, if not formally, their last reduction. We said last week that nothing had occurred to make the outlook less bright, and that we hoped for an advance immediately on the close of the holiday season. Circumstances are, however, even better than anticipations, and the year closes with one more illustration of how little the forecasts of the smelting interest are to be regarded by the miner. This is the second, if not the third, time a drop has had to be recalled almost as soon as made within three or four months. Thus far for tin. Copper unfortunately has suffered in a way which does not admit of so satisfactory a remedy. There also, however, we see every reason to hope, and no reason at all for the course which events have recently taken beyond what we have already more than once remarked as the stagnating influence of holiday time.

Concerning mining matters generally there is very little to say. New ventures are still being announced, and some of them at least with excellent prospects. The weather fluctuates so much between frost and moist that its influence upon mining surface operations is very variable, and much depends upon locality. Only the other day we found tin dressing in full operation on one face of a hill, while lower down in the valley, and on the other face, not a quarter of a mile away, frames and buddles were at a standstill from frost. The probabilities seem to be that we have a sharpish winter before us, and this of itself by checking output will have a tendency to put up rates, though we do not imagine any leading mine is likely to be seriously affected. The Red River operatives feel this sort of weather as severely as it is felt anywhere.

Next week we shall give our usual review of mining in the West for the year—a much pleasanter task than it has been of late.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Dec. 23.—Few pig-metal orders are now being booked; buyers declare that they look for a reaction to set in, as prices have been pushed up so rapidly by returning prosperity, The orders that are now being booked as compared with those of three months' standing show an advance of about 1*l*. for best pigs, and 17s. 6d. for common. For all mine hot-blast iron a minimum of 4*l*. 2s. 6d. is being given, and even at this figure makers will not book far forward. For cold-blast pig 5*l*. 10s. is freely given, as in this brand still higher prices may be expected. Investors who have been reserving the stocks of pigs purchased months ago are now selling at increasingly advancing prices. Among the good effects of the revival I notice the re-starting of works that have long been idle. John Bradley and Co. (W. O. Foster and Son) are now getting in trim certain of their mills, forges, blast-furnaces, and pits to meet the growing demand for metal and fuel. Most of the mills and forges of the district have been on full time for the past month, though mostly on orders booked at the old prices. It is being mentioned amongst the trade as an instance of the firmness of the iron market for future delivery that one maker a few days ago refused an offer of 1000 tons of unmarked bars at 8*l*. per ton for delivery up to the third month in the New Year. As to the extent of the expected rise makers confidently mention 1*l*., perhaps 1*l*. 10s., while some even predict 2*l*. This would make common marked bars 8*l*. to 10*l*. per ton. For next quarter's delivery sheets are booked at 10*l*. 10s., and hoops at 9*l*. Large quantities of coal are being turned out, for all the collieries are fully on, and some are working three hours a day extra in view of the Christmas holidays. Yet quotations for the fuel show no signs of being weakened. Rates are about 2s. higher than in the summer. Furnace coal is now 10s. per ton, and in this sort a further rise may be expected. Demands for native ironstone are far from being satisfied, the accumulation of water preventing the free working of the mines. Large supplies of minerals from other districts are being imported. The galvanised sheet makers are very strong; the best firms report an advance of 20s. per ton on the week.

Mr. William Holliday has been elected a director of the Metropolitan Railway Carriage and Wagon Company.

At Newcastle (Staffordshire) Messrs. Stanier and Co., colliery proprietors, Silverdale, were charged at the instance of Major Majendie, Government Inspector, with having committed a number of offences against the provisions of the Explosives Act, 1875. There were seven summonses, four being in respect of a powder magazine at the Oak Colliery, Knutton, and three in respect of a magazine at Scot Hay. The offences consisted of neglecting to provide lightning conductors for the stores; not having the stores lined or covered so as to prevent iron, steel, or other substance being exposed in such a manner as to come in contact with the powder; not making due provision for preventing the introduction of fire, lucifer matches, or other articles likely to cause an explosion; not using in the stores tools or implements of wood or soft metal. Mr. Udall, one of the defendants, admitted the offences, but said his firm had not intentionally broken the law. They gave orders to their managers to have all their stores made to comply with the Act, and at the Apedale Colliery, where the order was carried out, the whole of the stores satisfied the Inspector. At the Silverdale Colliery, however, the order was not obeyed, and through one act of omission all these offences had been committed. He promised to see that the Act was complied with as speedily as possibly, and submitted that this was not a case for a heavy penalty. Mr. Twemlow, chairman of the magistrates, said the Explosives Act was an extremely long one—by no means easy even for those learned in the law to understand. No doubt some of the clauses were almost unintelligible to ordinary people, and in point of fact, in consequence of the difficulty of the Act, he was afraid a great many people had neglected it, and trusted to fate to guide them in carrying it out. Under the circumstances he thought one substantial penalty in respect of each store would be sufficient. The defendants were fined 5*l*. for each store, and the costs—in all 11*l*. 8s. 6d. Harold Bonser, mining surveyor and agent, was charged with causing a box of dynamite to be conveyed along the highway on a barrow without being covered with painted cloth, tarpaulin, or other suitable material to prevent communication by fire The defence was that the dynamite was securely packed in boxes. Mr. Twemlow said an offence had been committed, though perhaps not intentionally. These proceedings were intended as a warning, and to prevent a practice which might lead to damage being done. Defendant would, therefore, be fined 20s. and costs.

THE DEPHOSPHORISATION OF IRON.—At the last meeting of the South Staffordshire Mill and Forge Managers' Association a paper was read upon "The Behaviour of Sulphur in the Manufacture of Iron," by Mr. W. J. Hudson, Associate in Physical Science. The lecturer went largely into the analysis of various kinds of irons, ores, and fuels, and stated that the quantity of sulphur varied in an almost unaccountable manner in different ores. The red hematites and magnetites were ores which usually contained a very small percentage of sulphur, and were highly prized and used in the manufacture

of high-class irons and steels. A good Staffordshire coal usually contained about 5 per cent. of sulphur, and yielded about 40 per cent. of coke. The only means of getting a good coke from coal containing a large percentage of pyrites was to wash the slack and separate the heavier pyrites from the light slack. Passing to the evil influence of sulphur in the foundry Mr. Hudson said that a liberal use of limestone in the cupola would have the effect of freeing the molten iron of a part of its sulphur. The conditions most favourable to the removal of sulphur from finished iron while it was in the puddling furnace were regularity of working, a good basic slag or cinder, and a sufficient time allowed for the contact of the iron with the cinder before coming to the boil. The aim of puddling should be to saturate the silica in the tap-cinder by the addition of favourable fettles rich in oxides of iron, manganese, lime, &c. This would reduce the sulphur to such limits as to render it practically inert. Generally speaking, conditions favourable to the removal of phosporus were also favourable to the removal of sulphur. The main object of the smelter should be to prevent the sulphur from passing into the iron, and to facilitate as far as possible its passage into the slag. The only remedy was to keep the furnace working regularly and grey, and to keep sufficient charge of limestone in the furnace to ensure a slag containing an excess of lime.—In the discussion which followed the subject was declared to be one of great importance, and it was decided to have the paper printed and circulated amongst the members for further discussion at the next meeting.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Dec. 24.—The Cardiff Town Council have resolved upon purchasing the local waterworks at a cost of 30,000*l.* There seems to be a growing spirit on the part of corporate and other local authorities now to buy over gas and water works, and probably this is better than leaving the monopoly in the hands of a company who often will not move beyond the exact requirements of their Act. The committee appointed by the house coal delegates for drawing up a basis for the sliding scale committee have met. The prices of coal were discussed, but nothing important was done, and the committee will again meet. The masters will be seen in the meantime. Two miners belonging to the Middle Duffryn Colliery have examined the workings, and have found them safe and in good condition. In their report they consider the manager, overman, and other officials deserve credit. It is rumoured that the freighters on the Monmouthshire Railway intend to oppose the proposed absolute purchase of that line by the Great Western Railway Company, hoping to obtain some modification in the existing rates for mineral traffic.

The Iron Trade has but little altered during the past few days, and the advent of Christmas will be a more merry one to many than last year proved the case. As a rule the ironworks are well engaged. Since last report I am enabled to state that another advance in wages has taken place at Tondu and Maesteg, the millmen and forgemen getting a 10 per cent. rise. The demand for all descriptions of iron remarkably good. Old and raw material is finding its way to the United States still, and the clearances during the past few days have been mainly to that quarter and India. The latter country is a fair customer now. The enquiry for rails, both iron and steel, is fairly well kept up, and the bar trade has of late much developed. As to the pig-iron department prices are fluctuating, but the demand is good, and many makers are almost unable to supply their customers. The Spanish ore trade is fairly good, and increased importations coming to hand prices have advanced. The Tin-plate Trade is unaltered. The Waterloo Works, near Machen, will probably soon be re-started Preparations for that purpose are on foot. The coal industry has not much altered. Owing to scarcity of tonnage last week the exports foreign from Cardiff fell off considerably. This week, of course, shipments will necessarily be small. The quantity of coal brought to bank is, however, very considerable, and is more than equal to the demand. The steam coal enquiry is very good, but for house coals there is not quite so good a request. For next year some good steam coal contracts have been booked. Prices have not materially changed. The patent fuel trade is somewhat quiet. The coke trade is more active. A number of coke ovens at the Abernant Works have been prepared for re-starting; half-a-dozen of them have already been lit up.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Dec. 24.—Mining has been quite active during the last three days, all being anxious to make as much as possible before the holidays, for it is not likely that work will be resumed before Monday next as a rule. At the collieries there has been plenty to do, and this fact, for which one would think the men would be thankful, appears likely to have a contrary effect, for they have presented an address to their employers asking for an advance of wages. In it they state that the time has arrived for them to call attention "to the improved state of the coal trade during the past few months, and which is such as to justify us in asking for a reconsideration of our present rate of wages, and such as ought at least to place us in as favourable a position as we were at the commencement of the present year." The miners do not appear to gain wisdom by experience, and do not look at the fact that it is the low price of coal which has contributed most to the increased demand, or that so much of it is being sent to the various markets from nearly all districts that there is no chance for forcing prices up. So far, indeed, from there being profits at all the collieries, we know of several owners who say that they have been losing money by selling at the existing rates. But it would not suit the men to believe this. It is true that a heavy tonnage of coal of late has been forwarded from most of the leading collieries to the South and West of England and London, but there has been no advance in the prices, although as regards the Metropolis a temporary rise might take place during the holidays when the pits are standing. At the ironworks business has been tolerably good, and there are now few stocks worth mentioning to be seen in any direction, for not only has there been an increase in the local consumption for foundry and mill purposes, but sales have been good of late for distant districts where rolled iron is largely produced. Since the improvement set in most of the mills have participated in it, previous to which they were very quiet, and number of hands employed considerably less than at present. A steady business has been done at the foundries in pipes and other castings, whilst at the steel rail works the workmen have been kept actively going.

Sheffield has been particularly busy during the week, first, with the election on Monday, when there was a contest, the closeness of which surprised both sides. The men at the various works, however, did not lose so much time as would have been the case had the trade been better than it was a few months ago. But they have done a good deal of "bulling," all things considered—that is, they worked night and day during the week preceding Christmas Day, where such was required, The mills engaged in rolling iron and steel have had a good time of it, and a good business has been done in several of the old staples, including table and other cutlery, considerable orders having been received for delivery in the New Year from the States and other distant places. Makers of Bessemer have also had a busy time of it, and the New Year promises to open ont auspiciously for those extensively engaged in the production of cast-steel, for one house will have a contract to commence with amounting to upwards of 200,000*l.* Skate makers have been doing well, seeing that when the frost set in they had little or no stocks, which were exhausted last year; whilst there has been some improvement in the edge tool and file department. House coal has sold very well, but few of the colliery owners have been able to sensibly increase their prices. On the other hand "hards" do not sell so well, most being done for the railway companies, and some of the ironmasters who use coal along with coke. For the latter, however, there is still a steady demand.

The dispute at the Birley Vale Colliery is now in a fair way of being settled, as the men and the owners have agreed to have the question of prices referred to arbitration, and have agreed to two Members of Parliament acting for them—Mr. W. S. Stanhope and and Mr. Mundella. At the Monk Bretton Colliery, close to Barnsley, however, the men are still on strike.

The South Yorkshire Miners' Associtaion appears to be suffering at the present time from internal revolution that is not unlikely to hasten its dissolution. In it there are tolerably strong factions as much opposed to each other as the Montagues and Capulets of old. Our side appears to favour Mr. Macdonald's views with respect to restriction, and in favour of which is one of the Secretaries—Mr. Frith. The other takes what most people would call the sensible and practical view, and with them the other secretary—Mr. Chappell—who has opposed it in every way. Accordingly on Monday last at the meeting of the delegates from the different lodges it was proposed that Mr. Chappell should be discharged. The votes were equal, and all the lodges were not represented, Mr. Chappell, sooner than put up with the abuse he had there and then resigned. He was to have taken an active part in the settlement of the sliding scale, which now stands a chance of being thrown overboard.

TRADE OF THE TYNE AND WEAR.

Dec. 24.—The house coal trade continues very dull for the season of the year, but for other kinds of coal there is a steady and increasing demand. The coke trade also improves rapidly, and those who have coke for sale in the market can get 13s. and upwards per ton at the ovens, at present, The best gas coal collieries are fully employed. The advance in the value of second class coal is slow, but all recent gains are established. Coking coals are likely to be in good demand for shipment to the North of Europe next year. At Silksworth another large winding engine is about to be started, which will have the effect of increasing the output very considerably. At Castle Eden collieries the late difficulties caused by the influx of water have been to a great extent overcome, and full work will be resumed shortly. There is no change to report in the steam coal trade. The iron trade continues to improve, and prices are still advancing, and a good deal of excited feeling is prevalent. It appears that there is a large demand both for Germany and the home market. Both merchants and makers are very stiff in their rates, 47s. 6d. and up to 48s. No. 3. The Cleveland market is ruled to a great extent by the Glasgow market. There is a confident feeling that next year will be better than even present rates, although the production will no doubt be larger. The stock in Connell's stores is reported at 97,500 tons. In all directions exertions are made to get finished ironworks into operation, and, besides the Moor Works at Stockton, the Richmond Works and probably another are to be added, besides Hopkins, Gilkes, and Co. and the other companies' works in course of reconstruction at Middlesborough. At Darlington it is expected that the Skerne Ironworks will also be started. The finished iron trade is firmer, and angles are 7*l.* to 7*l.* 5s.; bars about the same rate, and plates 8*l.* to 8*l.* 5s.; iron rails 6*l.* 12s. 6d, The wages question in the finished iron trade, which comes before the Board of Arbitration on Monday, is likely to be settled by an advance of 12½ per cent. The steel trade is busy, and Bolckow, Vaughan, and Co. are preparing to make steel from Clevland iron on a large scale. The steel rail works at Eston have plenty of orders in hand. The coal and coke trades in South Durham are increasing in activity. The manufacturing trade of course is much better and prices are stiffer. Mill coal is 5s. 6d. to 6s. 3d. per ton at the pits, and puddling coal about 1s. per ton less. The coke is largely contracted for, and small lots for sale have reached 13s. 6d. to 14s. per ton.

On Monday the Board of Arbitration for the iron trade held a meeting at Darlington, Mr. W. Whitwell presiding, to consider the proposal of the Standing Committee that wages should be advanced 1s. 3d. per ton for puddling, and 12½ per cent. for other forge and mill wages. The proceedings were of a protracted nature, as there were a great many points to be settled in connection with the question at issue, especially that in relation to the basis of the sliding scale. The arrangement come to is embodied in the following resotion, which was handed to the Press:—First, it was unanimously resolved that the rate of wages to be paid from this date shall be 8s. 3d. per ton, for puddling (long weight), and 12½ per cent. advance in other forge and mill wages usually affected, and that these rates shall remain until May 1, 1880. The sliding scale to be fixed by the arbitrator shall come into force on May 1 next, and the wages to be payable shall be thenceforward for two years dependent on the net average selling price of all iron, rails alone excepted, invoiced by the firms connected with this board for the quarters ending respectively with March, June, September, and December, in each year.—Second, resolved that the question whether the basis of the future sliding scale shall be 1s. 3d. or 1s. 6d. above shillings for pounds, be referred to arbitraction.—Third, resolved that Mr. David Dale be invited to act as arbitrator.

From the Statistics of the Board of Arbitration for the Manufactured Iron Trade of the North of England, it is evident that there has been a marked declension in the production of shipbuilding iron in 1879 by the associated manufacturers. In 1878 the production by these was about 234,000 tons of plates, but with the year which ended with November, 1879, the production of plates by the associated employers was only 174,000 tons. Of angles, the makers indicated produced in 1878 some 90,000 tons, but in the year just ended the production was only about 49,000 tons. This falling off of about 100,000 tons in the output is partly nominal, for several of the manufacturers have in the year withdrawn from the Association, but it is partly also because of the closing of some of the associated works. It is worthy of note also that the production of shipbuilding iron in last year was the largest on record, but for the present year the output is considerably below the average.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Dec. 24.—In resuming our mining journey along the Cambrian Railway at Machynlleth, I may record that there are elevn principal slate and slab quarries in the hills to the north. The slates are of a blue colour, very hard, and of a useful thickness. The slabs from this region are much valued. The annual production of slates and slabs is about 30,000 tons. As we leave Machynlleth we see a little tramway, now disused, on our left hand. This led to one of the slate quarries south-west of the town. These are now, or were recently, abandoned. There is a great deal of good slate rock in the hills between Machynlleth and Glandovey, but it is interstratified with hard or unproductive rock, and hitherto slate quarrying south of the estuary of the Dovey has not been successful. As we gain Ynyslas Station we see to the south chimneys, wheels, and debris heaps, which indicate the mines grouped about the villages of Taliesin and Trerddol. Taliesin, Bryn-yr-Arian, and several others, none of which are, I think, at the present time doing much. Taliesin yielded a good deal of ore some years ago from the hardish rock near the surface, but underneath this the lode became unproductive, and there are many fathoms of driving in which not an ounce of ore was found. We now traverse for two miles or so a great bog, through which protrude here and there bosses of hard rock, which form the Ynysian, or islands of the district. Ynys-las, for example, being "green island." Some of these bosses of rock have lodes running through them, but mining has not, I believe, been carried on profitably in any of them.

The mining region proper begins in the hills some two miles to the south, and at Llanfyhangel Station we are not far from Court Grange and Talybont. The Cambrian Mines are a little further off to the south-east, and numerous mines stretch away south-westward by Goginan towards the sea. The names and wealth of all of these are written in Mr. Absalom Francis's Map of the mines of Cardigan. Passing by the poor straggling village of Bow Street, we gain Aberystwith, the mining metropolis of this region. You may feel sure, as you walk through the town, that every other tradesman and innkeeper is deep in mining, that he has for disposal a source of uncounted wealth which needs but little expenditure indeed to make it available. In the hotels you are sure to meet mining men from London, and on Saturdays the talk in most of the lesser hostelries is less about sheep and cattle than of shafts, adits, stopes, aud winzes, and of the price at which one or another has sold his tack-note. And thus it is that the "science of mining" is pursued, often in the midst of great pecnniary difficulties, but which happily are alleviated by occasional strokes of successful finance. If it couldonly be that moderate regular profits were sought in careful, plodding mining, rather than great gains in speculative sharedealing, a greater proportion than 13 out of the 37 mines of the district would be successfully worked. It is, without question, a highly mineralised district, although a good deal of its riches have been extracted.

What is wanted for its further development is a more accurate knowledge of the mineral-bearing strata in depth. It would, therefore, be a national gain of an exact record and section could be kept of every shaft sunk and of every level driven in which could be noticed the variations in the strata and the minute characteristics of those that are ore bearing. Why should it not by as possible to construct a series of sections of lead mine shafts as of coal shafts? Of the advantage of doing this there can be no question. Let the geological surveyors address themselves to this work when they next come into the region. Before that time how much valuable information could be elicited and recorded if only a "North Wales Institute of Mining Engineers" could be established. And, with this reflection, I close my mining report for the trying year of 1879.

REPORT FROM THE FOREST OF DEAN

Dec. 24.—The tin-plate industry of the district is at present in a state of activity, and gives full employment to its employees of both sexes, which prosperity we hope may be long continued. There are now four local works for manufacturing tin-plates—Lydney, Parkend, Lydbrook, and Hawkwell. The last specified is named Hawkwell undoubtedly from the circumstance that the same firm owns Hawkwell Colliery as owns the tin-plate works—Messrs. Chivers and Co.—although the tin-plate works are contiguous to Churchway and some little distance from the colliery. Parkend Works re-started under the new company the week before last, but it is understood that operations are not as yet in full development, though it is hoped that such will be the case in a short time. The new company taking to Sewdley and Parkend furnaces intend to re-start those works simultaneously, but it is understood that steel will be exclusively manufactured at Sewdley Works. Only two furnaces are in blast at Cinderford Ironworks, nor is it certain when an additional furnace may be blown in. Stocks in pig-iron are greatly reduced. Very little coke is made at Cinderford at present. We remember when from 1200 to 1400 tons of coal were coked per week in the yard; when the night scene was a brilliant and dazzling one, the light darting upwards and illumining the sky to a great altitude, so as to make its luminosity visible to long distances, at times the country even so far as the borders of Northamptonshire. We have conversed with persons of the counties of Warwick, Oxford, and Northampton, who have clearly recognised the light from Cinderford furnaces and coke yard when in full operation. The fires, too, were objects of great curiosity to night-birds, as, in long years gone by, when coking and blasting were in their glory, and as we have been out at night we have witnessed large birds and small ones wheeling round and round, and screaming and chattering to one another at a high altitude. Seagulls we have recognised amongst them occasionally, but the voices of others we could not recognise; some piped, some screamed, and others appeared to be talking about the fires beneath; and, supposing that they were ornitholgical sages or philosophers, their observations must have been deeply interesting and curious, could their language have been understood, although they might not have been discussing the chemistry of the phenomena which so arrested their attention beneath. At times when listening to the voices of the night-birds wheeling round over the fires we have wished for the companionship of someone more intimate than ourselves with the feathered tribes, for we have heard ornithological voices by night never heard by us by day—and that birds have a language amongst themselves we are certain—for by observation and attention we have learned to distinguish various notes having distinct ideas attached to them, some notes of call and others notes of warning. Some years ago a country gentleman related a case of bird knowledge and kindness. It was in the winter season, and few birds had been seen in the particular locality, food suitable for them being there very scarce. But a piece of arable land was broken and prepared, and then seed sown and harrowed in, when one or two birds were seen to feed there; but in a day or two afterwards a few others came, and in less than a week immense numbers had arrived. How did that happen? The gentleman concluded that those which first tasted the good food conveyed the news to others and invited them to a participation of the valued blessings. But we have digressed. Still, the kingdom of Nature is one of great interest, and worthy of intelligent attention.

The output of coal remains much as it has been for some weeks, the colliers being fairly well employed, orders being somewhat checked, temporarily at least, by the second shilling advance in price. Wages, however, have only been advanced one 5 per cent., although it was confidently asserted in a local paper last week that colliers' wages had been advanced 10 per cent. throughout the Forest. This piece of false news greatly exasperated the working colliers, and led them to express themselves in very strong language on the subject, seeing that they have strongly felt that they were fully entitled to a 10 per cent. advance. Their wages not not averaging 1*l.* per week, a 5 per cent. rise is the veriest trifle as an addition to their weekly income: 2s. per ton advance on the price of coal makes a very great difference to proprietors of collieries making a output of 600 tons a day. Some produce more, others less; but with an advance of 2s. per ton in price, 10 per cent. rise in wages would have been more reasonable and more encouraging to the men, and still have left the substance for the proprietors. Such, at all events, are the thoughts and opinions of the general public. The only way in which the working colliers are benefited by improvement in the coal trade is that they are more fully employed, for the rise in price of provisions more than consumes the 5 per cent. in wages. We should like to see an equitable sliding scale adopted in the Forest, so as to prevent all violent contentions and agitations between employers and their workmen. And now that the Miners' Local Union is defunct, the masters, if they desire to prevent a resurrection of it in their midst, should show consideration and encouragement to their men without waiting for agitation and noisy pressure. "Live and let live" is a maxim equally worthy of the attention of employers and the employed.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the markets have been quiet, but firm. The various trade reports indicate a fair amount of activity, considering the season of the year, and the feeling, therefore, is very cheerful. There can be no doubt a considerable business and rise in prices have only been held in check by the holidays approaching, which will be followed by the fortnightly settlement.

In shares of coal and iron companies the movements for the week comprise advances of 25s. per share on Shotts Iron, 6s. 3d. on Monkland (pref.), 5s. each on Cairntable and Glasgow Port Washington (A), 3s. on Monkland, 2s. 6d. on Steel Company of Scotland, and smaller amounts on Benhar, Clyde, and Marbella; on the other hand, Ebbw Vale have declined 7s. 6d. per share. Bolckow, Vaughan (A), 5s., Chillington and Scottish Australian each 2s. 6d., also Omoa and Cleland 1s. The prosperity of the iron trade is steadily increasing, and those who buy into good shares at present unduly depressed prices are bound to make great profits. South Wales Colliery 25*l.* shares (24*l.* 10s. paid) are thought good to buy about 4½ to 5 as before the times of recent depression they paid dividend steadily as high as 37 per cent., and of course shares then commanded a good premium. Mwyndy Iron Ore shares are also worth attention; they have in the Trecastle ore an easily wrought ore very suitable it is said for making steel, and, therefore, very valuable. Some of the Scotch shareholders consider the London office a useless expense.

Shares of foreign copper and lead companies continue very firm. Thasis have advanced 25s. per share, Rio Tinto (shares) 12s. 6d., Cape Copper and Rio Tinto (Five per Cent), each 5s., Rio Tinto (Seven per Cent.) 2s. 6d., and Huntington 1s., while Panulcilllo are reduced 2s. 6d. per share, and Canadian 1s. Tharsis shares have been rising steadily all the week from 29*l.* 18s. 9d. to 31*l.* English and Australian are at 25s.; Fortuna, 5½ to 6; New Quebrado, 68s. 9d.; Rio Tinto (Five per Cent.), 90; Yorke Peninsula, 5s. ditto (pref.), 18s. to 20s.

In shares of home mines business has been quiet. Copper shares generally higher; Glasgow Caradons advanced from 26s. to 27s. 6d. Tin shares also firmer on the advance of 2*l.* in the tin standard. West Peevors are considered good to buy for a quick rise. Clementina are at 20s. Carn Brea, 61¼. Dolcoath, 55. East Caradon, 55s. East Craven Moor, 9½. East Van, 45s. East Chiverton, 40s. to 45s. East Pool, 22. Glenroy, 20s. Grogwinion, 70s. Hingston Down, 12s. 6d. Killifreth, 10s. to 12s. 6d. Leadhills, 92s. 6d. Monydd Gorddu, 40s. North Busy, 70s. Penryorsedd, 25s. Parys Copper, 35s. to 40s. Pant-y-Mwyn, 48s. 9d. Prince Patrick, 50s. Rhosesmor, 80s. Roman Gravels, 12½. South Condurrow, 13. South Darren, 65s. South Frances, 11. Tincroft, 17. Teesdale, 20s. Tankerville, 5¾. Van, 23¾. West Basset, 11½. West Pateley, 45s West Seton, 47½. West Tolgus, 27. West Chiverton, 40s. West Assheton, 70s. Wheal Comford, 60s. to 00s. Wheal Crebor, 7½. Wheal Jane, 80s. to 85s. Wheal Kitty, 55s. Wheal Owles, 120 to 130. Wheal Peevor, 22. Wheal Uny, 22s. 6d.

John Brown and Co.'s shares have advanced, although they are not paying an interim dividend this year, but the directors consider the prospects point to very hopeful results soon. Chapel House (debentures) unaltered. Benhars have fluctuated between 45s. and 48s. 6d.; Andrew Knowles and Sons are at 45s. dis.; Bilbao Iron, 18; ditto (pref.), 26; Bolckow, Vaughan, A, 78½ to 79½; ditto (stock), 131; ditto, B, 40¾ to 41¼; and ditto (pref.), 20 Cardiff and Swansea, 40s. to 50s.; Clyde Coal, 72s. to 77s.; Chillington, 85s.; Charles Cammell and Co., 9¼ dis.; Ebbw Vale, 8 to 8¼; General Mining, 90s.; Great Western, 75s.; Henry Briggs, A, 13½; Horbury Junction, 10; John Bagnall and Sons, 34s. 6d.; Leeds and Yorkshire, 60s.; Marbella, 45s. to 49s. 6d.; Monkland, 62s. to 65s. 6d.; ditto (pref.), 6*l.* 10s. to 7*l.* 1s. 3d.; Muntz's Metal, 15¾; Newport Abercarn, 7; Newmarket, 5; New Sharlston (pref.), 7½; Omoa and Cleland, 21s.; Parkgate, 20s. dis.; Pelsall, 55s. dis.; Rhymney, 24; Staveley, A, 25 prem.; ditto, B, 75s.; Sandwell Park, 21; Sheepsbridge, 9¾; Shotts, 71¾ to 73½; Steel Company of Canada, 3 to 5; Steel Company of Scotland, 11*l.* 13s. 9d. to 12*l.*; Scottish Australian, 37s. 6d. to 42s. 6d.; Tredegar, B, 22¾; Thorp's Gawber Hall, 55s. to 65s.; ditto (pref.), 9½ to 9¾; West Mostyn (deferred), 5; West Cumberland, 5 to 5½.

In shares of gold and silver mines business has been more active. Richmonds opened at 9½ to 9¾, but have advanced at 10 to 11½. This company's profit for last half-year is fully better than the rate in the preceding year, which, along with the satisfactory way they are getting new ore discoveries, makes the prospects look well. The profit (70,000*l.*) is equal to about 50 per cent. on the share capital of 270,000*l.* As nearly a third of their produce is lead the company has benefited greatly by the advance in that metal, and may continue to do so. The profit at Santa Barbara for October is 888*l.* Almada and Tirito are at 8s. Australasian Mines, 8s.; Chontales, 7s. 6d.; Colorado United, 27s. 6d. to 32s. 6d.; Don Pedro, 7s. 6d.; Eberhardt, 60s.; Emma, 10s.; Exchequer, 2s. 6d. to 5s.; Flagstaff,

30s. to 32s. 6d.; Frontino, 55s.; I. X. L., 4s. to 5s.; Javall, 5s. to 7s. 6d.; Last Chance, 15s.; Mineral Point, 30s. to 40s.; Pestarena United, 5s. to 7s. 6d.; ditto, pref., 15s. to 20s.; Port Phillip, 8s. 6d. to 9s. 6d.; Rio Grande ditto sul., 5; Ruby, 92s. 6d.; South Aurora, 10s.; Sierra Buttes, 33s. 9d.

In shares of oil companies Uphalls have advanced 2s. 6d. per share, while Young's Paraffin are reduced 5s., and Oakbank 6d. Young's Paraffin declined from 13*l.* 8s. 9d. to 13*l.* 5s. Runcorn Soap and Alkali, 15s. dis.

In shares of miscellaneous companies little doing. Birmingham and Midland Counties Val de Travers, 10s. to 12s. 6d.; Earle's Shipbuilding, 19 dis.; Milner's Safe, 9; Neuchatel Asphalte, 5s. to 7s. 6d.; and Palmer's Shipbuilding, (B), 8 dis. Prices of wagon companies' shares are—Birmingham, 15¾; Bristol and South Wales, 6½; Gloucester, 9½; Metropolitan, 60s. prem.; Midland, 12; North of England, 65s.; Railway Carriage, 5½; Sheffield, 11⅛; Swansea, 45s.; Scottish, 8⅞ to 9; and United States Rolling Stock, 17 to 17½. Prices of chemical companies' shares are—Langdale's, 72s. 6d.; Lawes', 5 to 5½; ditto (pref.), 9½ to 10⅜; Newcastle, 80s.; and Odam's, 16.

The following calculations show the yield per cent. on money invested at present prices in the shares named, based upon the last average yearly dividends being maintained:—In oil companies, Broxburn would yield 4⅜; Oakbank, 10; and Uphall, 5¼. In other investments, Scottish-Australian Mining would yield 8½; Scottish Wagon, 5½; Steel Company of Scotland, 4; Tharsis Sulphur, 4¾; and ditto (new), 4⅛.

THE PIG-IRON MARKET.—This market has been good last week, and warrants touched 65s. 6d.; the rise is slow and not of a speculative character, being due almost entirely to the increasing prosperity in every branch of the trade. From the annual returns of the Iron-brokers' Committee, we learn the production in 1879 has been 932,000 tons, an increase compared with 1878 of 30,000 tons, while the consumption—302,000 tons—also shows an increase of 8000 tons. The quantity shipped and per rail has been 564,000 tons, which shows the large increase of 130,000 tons over 1878. The stock in Connals store is 415,625 tons, and in makers' yards 329,357 tons, or in all 745,000 tons, which compares with in 1878 in Connals store 199,417 tons and in makers' yards 479,583 tons, or in all 679,000 tons, and the result is an increased stock at the close of this year of 66,000 tons.

THE STEEL COMPANY OF CANADA (Limited).—The sixth annual meeting of this company takes place on Dec. 29. The report states that the capital outlay includes 5607*l.* on the rolling mill, which is now in an efficient state, and capable of turning out 150 tons of finished iron per week. The development of the east mines was also proceeded with, and the produce of these mines will be required in the view of both furnaces being put in blast, which the directors are preparing to do on account of the improved state of the iron trade. The rise in the iron market here has greatly improved the prices in the Dominion, and the production is being disposed of at fairly remunerative prices. The cost of production will not increase in proportion to the rise in price, so that the directors consider the prospects of the company are good. The loss on the year's trading was 18,625*l.* and was mainly due to the very serious fall in prices on this side, and the extraordinary low rates at which iron was carried from the Clyde to places in Canada. In some cases pig-iron has been delivered in Canada West from the Clyde at half what was charged on pig-iron for same places from the works at Londonderry, and for the most part of the season the freight from the Clyde to Montreal was merely nominal—a state of affairs not likely to again occur. A moderate import duty of 82·24 per 20 cwts. has been imposed by the Dominion Parliament, which will eventually benefit the company. Furnace A, which was put in blast in October last, has been working well since, producing about 400 tons a week.

GLASGOW CARADON CONSOLS MINING COMPANY.—This company's sale on the 18th inst. of 160 tons copper ore realised 632*l.* 1s., or an average of 79s. per ton. Last month's sale was also 160 tons, but the price realised was 90s., while the sales in the month of December for several years past have been:—In 1878, 200 tons, at 78s. 4d.; in 1877, 205 tons, of 72s.; in 1876, 255 tons, at 91s.; in 1875, 226 tons, at 110s. 10d.; in 1874, 245 tons at 112s. 7d.; and in 1873, 260 tons, at 94s. 7d. This is the twelfth, and consequently last, sale of the company for this year, and the total proceeds of these sales is 8723*l.*, which, compared with the amount realised for the sales in 1878, show a decrease of 1543*l.*; but the quantity of ore sold is also less by 394 tons.

CLYDE SHIPBUILDING TRADE IN 1879.—From returns published this week it appears the vessels completed last year numbered 170, of an aggregate tonnage of 173,438 tons, compared with 236 vessels and 222,353 tons in 1878. With the exception of 1877, the returns compare unfavourably with recent preceding years, though, perhaps, better than could have been expected considering the severe depression of local trade. It is, however, very satisfactory to point out that the complete revival which has taken place in this trade since these returns were compiled, owing to the unusually large amount of new work secured, will greatly increase next year's business.

HUNTINGTON COPPER AND SULPHUR COMPANY (Limited).—This company has issued a circular intimating the result of a visit to Canada by Mr. Gray, one of the directors. An arrangement of their claim against Mr. Huntington has been made for $27,500, payable in two years, with interest at 6 per cent., satisfactory security also being granted. An arrangement has also been made with Mr. Alex. M'Ewen, by which he agreed to pay 700*l.* for five years, with the proviso that such payment should not be made in any year in which the company may pay over 6 per cent. dividend. Encouraged by the success which has attended the ore-smelting process and producing ingot copper a further development of the lodes has been agreed upon, and the putting of the works into a state to efficiently treat the output. A further point in favour of the company is the advantage enjoyed by them owing to the high import duty now levied on copper entering Canada.

Capital. Per share.	Paid up.	Dividends. Rate per cent, per annum. Previous.	Last.	Description of shares.	Last price.
£10	£8	£5	£5	Arniston Coal (Limited)	8½
10	10	4	nil	Benhar Coal (Limited)	48s. 6d.
100	60	50s.‖	nil	Bolckow, Vaughan, and Co. (Lim.)	£. 79
10	10	10	10	Cairntable Gas Coal (Limited)	8½
10	10	4s.‖ April, 1876		Chillington Iron (Limited)	85s.
10	10	—	—	Clyde Coal (Limited)	75s.
23	20	10s.‖ Dec., 1874		Ebbw Vale Steel, Iron, and Coal (Lim.)	8⅛
10	8	nil	nil	Fife Coal (Limited)	5
10	10	—	—	Flemington Coal (Limited)	10
10	10	nil	nil	Glas. Port Washington Iron & Coal (L) B.	80s.
10	10	—	—	Ditto, A	80s.
10	10	—	—	Lochore and Capeldrae (Limited)	30s.
10	10	nil	nil	Marbella Iron Ore (Limited)	47s. 6d.
10	10	nil	nil	Monkland Iron and Coal (Limited)	65s.
10	10	nil	nil	Ditto, Guaranteed Preference	6⅛/16
100	100	nil	nil	Nant-y-Glo & Blaina Ironworks pref. (L)	24
6	6	nil	nil	Omoa & Cleland Iron & Coal (L. & Red.)	21s.
1	1	15	15	Scottish Australian Mining (Lim)	40s.
1	10s.	15	15	Ditto, New	30s.
Stock	100	nil	nil	Shotts Iron	73
10	8	nil	8	Steel Company of Scotland (Lim)	11⅞
		COPPER, SULPHUR, TIN.			
4	4	—	—	Canadian Copper and Sulphur (Lim.)	15s.
10	7	72s 6d‖	60s.‖	Cape Copper (Limited)	34
1	1	2½	nil	Glasgow Caradon Copper Mining (Lim).	25s.
1	15s.	2½	nil	Ditto, New	19s.
10	9¾	nil	nil	Huntington Copper and Sulphur (Lim.).	44s.
4	4	—	—	Panulcillo Copper (Limited)	97s. 6d.
10	10	nil	nil	Rio Tinto (Limited)	9¼
20	20	7	7	Ditto, 7 per cent. Mortgage Bonds	20½
100	100	5	5	Do., 5 p. ct. Mor. Deb. (Sp. Con. Bds.)	91
10	10	17½	16½†	Tharsis Copper and Sulphur (Limited)	31
10	7	17½	16½†	Ditto, New	20¼
1	1	—	—	Yorke Peninsula Mining (Limited)	5s.
1	1	—	—	Ditto, 15 per cent. Guaranteed Pref.	10s.
		GOLD, SILVER.			
1	1	—	—	Australasian Mines Investment (Lim.)	8s.
5	5	7s. 6d‖	7s. 6d‖	Richmond Mining (Limited)	10 1/16
		OIL.			
10	8½	—	9	Broxburn Oil (Limited)	17½
10	7	5	5	Dalmeny Oil (Limited)	8¼
1	1	15	20	Oakbank Oil (Limited)	40s.
1	5s.	15	20	Ditto	9s. 6d.
10	10	2	4	Uphall Mineral Oil (Limited) A	7¾
10	10	—	—	Ditto, B Deferred	35s
10	8½	17½	12½	Young's Paraffin Light & Mineral Oil (L)	13¾
		MISCELLANEOUS.			
50	25	5	5	London & Glasgow Engineering & Iron Shipbuilding (Limited)	25
7	7	5	nil	Phospho Guano (Limited)	5½
10	10	5	5	Scottish Wagon (Limited)	9
10	4	5	5	Ditto, New	67s. 6d.

† Interim. ‖ Per share. * For 1878. ‡ For 14 months.

NOTE.—The above lists of mines and auxiliary associations are as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them, and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, Dec. 24.

SANTA BARBARA (Gold).—The latest advices to hand are the most encouraging received. An improvement has taken place in the yield of gold per ton, and additional strakes have been erected to catch the gold hitherto carried down the river. Considerable importance is, of course, attached to the gradual increase in the yield of gold as the lode is developed in depth, but equal value should be given to the extensive strake system now being carried out under the management of Mr. Thomas Tregellas, as thereby the profits even from the present output must necessarily increase. The profits now being realised represent 50 per cent. upon the capital of the company.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the BREA CONSOLIDATED TIN AND COPPER MINING COMPANY (LIMITED).—Notice is hereby given, that ALL CREDITORS of the above-named company are required, on or before Saturday, the 10th day of January next, to SEND IN their NAMES and ADDRESSES, and the AMOUNTS and PARTICULARS of their SEVERAL DEBTS or CLAIMS on the said company, to the undersigned, CHARLES LOWREY, of No. 9, South Parade, Leeds, in the county of York, the Liquidator appointed to continue the voluntary winding-up of the said company, subject to the supervision of the Court.

CHARLES LOWREY, Liquidator.

Dated this 22nd day of December, 1879.

PRELIMINARY ANNOUNCEMENT.

STOBCROSS DOCKS CONTRACT, GLASGOW.

MR. ARTHUR T. CROW, Contractors' Auctioneer, Manor House, Sunderland, has received instructions from John Jackson, Esq., owing to completion of contract, TO SELL, BY PUBLIC AUCTION, the WHOLE of the VALUABLE CONTRACTORS' PLANT and MATERIAL, Powerful STUD of DRAUGHT HORSES, CARTS, and HARNESS.

Date of sale and further particulars in future advertisements, and catalogues obtained at the place of sale and at the office of the Auctioneer, Sunderland.

VALUABLE FREEHOLD COLLIERY WITH COAL AND IRONSTONE MINES.

TO BE SOLD, either the WHOLE or PART of LESSOR'S INTEREST in a LARGE FREEHOLD COLLIERY in one of the North Midland Counties, also a LARGE AREA of LEASEHOLD COAL, with power to work thereout as much as possible during eleven years, without any further payment to Lessor.

The coal is of high repute in the London and Southern Markets, and the plant is powerful and efficient, and included in the Lessor's interest, and is capable of raising a minimum of 4000 tons of coal per week. There is ample siding accomodation in connection with the Midland Railway Company's Main Line to London.

The Advertiser would be prepared to CO-OPERATE with the PURCHASER in WORKING the COLLIERY, finding his proportion of Capital for such purposes.

For particulars, apply to Messrs. J. and P. HIGSON, Civil and Mining Engineers, 18, Crown Buildings, Booth Street, Manchester.

NANT-Y-GLO, MONMOUTHSHIRE.

TO BE LET, ON LEASE, the NANT-Y-GLO IRONWORKS, known as—

1.—THE LION MILL,

With a BEAM CONDENSING ENGINE, 46 in. cylinder, 8½ ft. stroke (incomplete), with machinery for driving three rail and two blooming mills, with standard, rolls, and connections, and cast-iron flooring plates, covered by a main roof in two spans, 224½ ft. by 87 ft., recently re-slated, and two other roofs, 68½ ft. by 35 ft., and 61 ft. by 31 ft., with bulling or heating furnaces, and four steam boilers. Fitting shop, adjoining, 61 ft. by 30½ ft., with two floors, smiths' shop, 61 ft. by 30½ ft., with eight smiths' hearths.

2.—UPPER MILL AND PUDDLING.

ONE BEAM CONDENSING ENGINE (incomplete), 46 in. cylinder, 8½ ft. stroke, wheel gearing, bed plates for roll standards, squeezers, &c., one egg-end boiler, three tubular ditto (one incomplete), main building, 240 ft. by 51 ft., adjoining buildings, 112 ft. by 28½ ft., and 61 ft. by 28½ ft., with iron roofs, principally unslated, one bulling and fourteen puddling furnaces. Roll turner's shop, adjoining.

3.—MIDDLE FORGE.

ONE BEAM CONDENSING ENGINE, 42 in. cylinder, 8 ft. stroke (incomplete), with machinery for driving two trains of puddling rolls, main building, 226 ft. by 45 ft., adjoining ditto, 104 ft. by 25½ ft., 93 ft. by 19 ft., and 23 ft. by 24 ft., thirty puddling furnaces

4.—PUDDLING AND PLATE MILL.

ONE BEAM CONDENSING ENGINE, 46 in. cylinder, 8 ft. 4 in. stroke (incomplete), with machinery, &c., four steam-boilers, puddling and bulling furnaces (some in an unfinished state), main building, 278 ft. by 53½ ft., adjoining ditto, 97½ ft. by 32½ ft., 100 ft. by 32½ ft., a considerable portion unslated.

The above are suitable sites for the manufacture of Tin-Plate, Merchant Bars, Wireworks, Rail, Plate Mills, and also Wagonworks.

All are on and have communication with the London and North-Western Railway, and are well supplied with water.

A Colliery adjoining can be taken in addition with either of the above if desired, from which a supply of Fire-Clay for Brickmaking and other purposes can be obtained.

For further particulars, apply to WILLIAM ADAMS, Esq., C.E., Cardiff; or Messrs. COLBORNE and WARD, Solicitors, Newport (Mon.)

IRON ORE ROYALTY.

TO BE LET ON LEASE, the IRON ORE ROYALTY of the "HOLLINS" ESTATE, in the parish of LAMPLUGH, CUMBERLAND, situate within a short distance of the Whitehaven, Cleator, and Egremont, and Rowrah Branch of the Cleator and Workington Junction Railways.

The Ore Works in the immediate neighbourhood indicate the presence of hematite ore of good quality, and to an enterprising lessee the present is an opportunity seldom to be met with.

Further particulars may be obtained from JOHN DOUGLAS, Esq., of The Grange, Seacroft, near Leeds; or Mr. JOHN MASON, Solicitor, Whitehaven, by either of whom offers will be received.

FOR SALE, a FIRST-CLASS SECOND-HAND 80 in. CORNISH PUMPING ENGINE, with several 11 ton BOILERS.

Apply, WM. BENNETTS, Roskear, Camborne.

WAGON WORKS AND STOCK.

ON SALE, EXCELLENT WORKS at CHORLEY, LANCASHIRE, and LLANTRISSANT, SOUTH WALES (recently carried on by Messrs. Baxendale and Heald and Simon Leach), with all necessary MACHINERY and PLANT, together with LARGE STOCK of STORES and MATERIALS.

May be viewed, or full particulars obtained, on application to Messrs. DAVIES and BEE, Public Accountants, Preston.

MINING BUSINESS IN NORWAY.—In the neighbourhood of KONGSBERG, where the renowned Government Silver Mines are situated, are many METAL VEINS discovered and tried. They consist of COPPER, LEAD, and ZINC. It must be observed that lead of this kind contains a good deal of silver.

Further particulars are to be had by applying to Mr. Emil Dybwad's Advertising Agency, Christiania, Norway. (D. 1446.)

COPPER MINING ON LAKE SUPERIOR.—An EXCELLENT OPPORTUNITY now exists for the PURCHASE, at low prices, of COPPER MINES on LAKE SUPERIOR, which, although proved rich, were suspended during the late depression, and are now idle. Very limited working capital required, and large profits assured.

Address, "H. B., Lake Superior," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

GYPSUM AND LIMESTONE.

THE OWNER of an ESTATE in SUSSEX, under which there is a considerable bed of GYPSUM and LIMESTONE, will be willing to ENTER INTO ARRANGEMENTS with PARTIES OF STANDING, who would UNDERTAKE THE WORKING THEREOF, either in shares or on a royalty.

The adjoining property is now in work, and the kilns and machines in action, and a branch railway connected with the South Eastern Railway.

For further particulars, apply to J. C. MAPPIN, Broadfield, Reigate.

FOR SALE.

IRON MINES IN SPAIN.

A NUMBER of IRON ORE MINES, extending over an area of about one square mile, and situated in one of the RICHEST MINERAL DISTRICTS of SPAIN, is OFFERED FOR SALE.

The mines possess the great advantage of a railway running through them, direct to the mole of one of the principal shipping ports of the West Coast of Spain.

As the vendors are not prepared to undertake the working of the mines themselves, they would DISPOSE OF THEM on very moderate terms.

For further particulars apply by letter, addressed "PAX," MINING JOURNAL Office, 26, Fleet-street, London.

PIT SINKING, WINDING COAL, PUMPING, &c.

PORTABLE STEAM ENGINE FOR SALE, with two 13¼-inch cylinders, fitted with link-motion reversing gear, large boiler, with or without road travelling wheels, and winding and pumping gear.

Also a double 9½-in. cylinder PORTABLE ENGINE.

A 9½-in. cylinder VERTICAL ENGINE, with winding drum, complete.

An 8-in. cylinder VERTICAL HOISTING ENGINE, with winding drum complete. To be seen at—

BARROWS AND STEWART'S WORKS, BANBURY, OXON.

FOR SALE, at NEW PEMBROKE MINE, CORNWALL:—

An excellent 25 in. DRAWING ENGINE and TWO BOILERS.
TWO SPARE BOILERS.
THREE IRON STAMPS AXLES.
100 fathoms FLAT RODS, 3½ inch.
10 arm CAPSTAN IRON AXLE.
A quantity of ROD PLATES and OTHER MATERIALS.

Apply to Mr. JOHN POLKINGHORNE, Woodlands, Par Station.

KING'S COLLEGE, LONDON.—METALLURGY, by PROFESSOR HUNTINGTON. NEW CLASSES in this subject (established by help of the City Guilds) will BEGIN on THURSDAY, January 15.

For particulars, apply to J. W. CUNNINGHAM.

For Excellence and Practical Success of Engines.

Represented by Model exhibited by this Firm.

HARVEY AND CO.,

ENGINEERS AND GENERAL MERCHANTS

HAYLE, CORNWALL,

LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF

PUMPING and other LAND ENGINES and MARINE STEAM ENGINES of the largest and most approved kinds in use, SUGAR MACHINERY, MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.

SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF

HUSBAND'S PATENT PNEUMATIC STAMPS.

SECOND-HAND MINING MACHINERY FOR SALE,

IN GOOD CONDITION, AT MODERATE PRICES—viz.,

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES; STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

THE BODEGA,

86, 87, 88, BISHOPSGATE STREET WITHIN.

Wines of the well known brand of the BODEGA are sold in dock sample glasses, by the bottle, dozen, and quarter cask. Champagnes of every noted shipper by the bottle and glass. The prices are graduated from the wholesale shipment to the single glass. It is this system which has won for the BODEGA its great success, and which has been pointed out at great length both in the Times and other journals.

The premises stand on the historic site of the old Green Dragon, and are the largest in the United Kingdom devoted to the sale of wines wholesale and retail.

"The convivial spirit of the old house still haunts the spot, and refuses to be exorcised. . . . It is just the place for a Mining Exchange, and by the silent but irresistible law of fitness it seem already to have been so constituted."—*Mining Journal.*—"The cosiness of a private club and the economy of the BODEGA are most happily combined."—*Continental Gazette.*

Also at 42, GLASSHOUSE-STREET; 13, OXFORD-STREET; 5 and 6, BUCKLERSBURY; THE ARCHES, LUDGATE HILL; and 72, MARK-LANE, LONDON.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

PARYS CORPORATION.—On Saturday morning the agent wrote—"I have good news to tell you. We have cut a lode in our 90 cross-cut south, and as far as seen it looks well. I am just up from there." No further information was received till Tuesday morning, when he wrote—"The copper newly cut in the 90 is looking very well. It will take us a day or two to square up the ground, after which we shall be able to say more about it; we are breaking some fine rocks of copper better than anything yet seen in the long level."

In order to give our readers the latest information we have requested that a telegram should be sent, giving the latest information, before going to press, and we hope to add it later on.

We trust now that the results we have so long and anxiously waited for, and have never doubted, will soon be realised in a good course of ore. So many disappointments have been met with, and the lode has for so long seemed to be so near, and yet never reached, that some of our friends have fancied that we were hugging a kind of myth, and that no lode would ever be seen. Of course, when the improvement was known on Saturday morning shares became in request at a good advance in price, but when Monday morning came without any fresh news the "market" looked upon it, of course, as only "another branch," and shares were more freely pressed for sale.

We are glad to see that Santa Barbara, which we have kept before our readers since the shares were at 10s. each, is doing better; the profit for October month is 883*l.* 16s. 5d. The last dividend was 1s. 6d. per share, and paid in November.

The weather still prevents dressing operations at D'Eresby Mountain, Aberllyn, and Clementina. At the former mine the agents value the lode sinking below No. 5 at 5 tons per fm. for 12 ft.; stope also worth 5 tons per fathom for width.

Clementina is looking very promising, and will realise in a few months all that we have said of it,

We cannot say what the next sampling at Wheal Crebor will be, or what influence the weather and the Christmas holidays may have upon it; but we hope and expect it will exceed 400 tons During the past month, notwithstanding the weather, 190 tons have been got ready. An important feature in the mine this week is that the lode east on the old lode is coming into ore.

At 4·5 this afternoon (Wednesday) we received the following telegram from Parys Mines, the agent telegraphing from there at 3 o'clock:—"Lode in 90 cross-cut, so far as seen, is 3 ft. wide, worth 3 tons good copper ore per fathom, and further improving."

SATURDAY, DEC. 20.—Market very active at a great advance, Parys Copper advanced from 19s. to 25s., buyers. Carn Brea, 55 to 60; Dolcoath, 52 to 54; South Condurrow, 12 to 13; South Frances, 10 to 10½; Tincroft, 15 to 16; West Basset, 11 to 12; West Frances, 11 to 12; Agar, 6 to 6½; Grenville, 4½ to 5; Peevor, 20 to 21; Van, 24 to 25; Great Laxey, 18 to 19; Roman Gravels, 12 to 12½; South Darren, 2¾ to 3; Tankerville, 5¾ to 6; West Assheton, 3⅜ to 3⅝; Glenroy (Lead), 17s. 6d. to 22s. 6d.; Herodsfoot, 2¾ to 3; Leadhills, 4½ to 5; West Chiverton, 2½ to 3; Crebor, 7 to 7½; Devon Great Consols, 6 to 6½; Parys Copper, 22s. 6d. to 27s. 6d.; Mellanear, 4¾ to 4½; West Seton, 42⅝ to 47½; West Tolgus, 24 to 26; Cape Copper, 33 to 35; Don Pedro, 14s. to 16s.; Panulcillo (Copper), 4¾ to 5; Richmond, 9½ to 10; Santa Barbara, 2 to 2½.

MONDAY, DEC. 22.—Market continues very active, and stocks generally scarce. South Caradon, 70 to 80; West Tolgus, 25 to 27; Crebor, 6¾ to 7¼; Marke Valley, 27s. 6d. to 32s. 6d.; Parys Copper, 22s. 6d. to 27s. 6d.; East Crebor, 20s. to 22s.; Prince of Wales, 10s. to 15s.; Carn Brea, 59 to 61; Dolcoath, 52½ to 55; East Pool, 20 to 22; Peevor, 20 to 21; Tincroft, 15½ to 16½; South Frances, 10½ to 11; West Basset, 11 to 12; West Frances, 11 to 12; Wheal Basset, 2¼ to 2¾; Van, 23 to 25; East Van, 2¼ to 2½; Glenroy (Lead), 17s. 6d. to 22s. 6d.; Grogwinion, 3¼ to 3½; Leadhills, 4¾ to 4⅞; Pandora, 15s. to 20s.; Pateley Bridge, 15s. to 17s. 6d.; Tankerville, 5¾ to 6; South Darren, 2⅞ to 3¼; Roman Gravels, 12 to 12½; Great Laxey, 18 to 19; Herodsfoot, 2¾ to ⅞; West Chiverton, 2½ to 5.

TUESDAY, DEC. 23.—Market again active, and a further rise has taken place in tin shares. Lead and copper shares firm. Carn Brea, 60 to 65; Dolcoath, 54 to 56; Tincroft, 16 to 17; East Pool, 20 to 22½; South Condurrow, 12½ to 13½; Peevor, 21 to 23; West Seton, 45 to 50; West Tolgus, 24 to 26; Parys Copper, 25s. to 30s.; Mellanear, 4¼ to 4½; Crebor, 6¾ to 7¼; Prince of Wales, 10s. to 15s.; Devon Great Consols, 6 to 6½; East Crebor, 21½ to 3; Romen Gravels, 12 to 12½; South Darren, 2⅞ to 3½; Tankerville, 5¾ to 6; Van, 23 to 25; West Assheton, 3¼ to 3½; Leadhills, 4¾ to 4⅝; Herodsfoot, 2¾ to 3; East Van, 2 to 2½; Cape Copper, 33 to 35; Eberhardt, 2¾ to 3; Don Pedro, 16s. to 12s. 6d.; Frontino, 2½ to 2⅞; New Quebrada, 4¾ to 5; Richmond, 9¾ to 10; Santa Barbara, 2 to 2¼.

WEDNESDAY, DEC 24.—Market for copper and tin shares very firm. Parys Copper advanced to 30s., 35s. Dolcoath, 54 to 56; Carn Brea, 60 to 62½; East Pool, 20 to 22; South Condurrow, 12½ to 13½; South Frances, 10½ to 11; Tincroft, 16 to 17; West Frances, 13 to 15; Peevor, 21 to 22; Parys Copper, 1½ to 1¾; Prince of Wales, 10s. to 15s.; South Caradon, 70 to 75; Crebor, 6¾ to 7; West Tolgus, 25 to 27; West Seton, 45 to 50; South Darren, 3 to to 3¼; Van, 23 to 25; Great Laxey, 18 to 19; Glenroy Lead, 17s. 6d. to 22s. 6d.; Grogwinion, 3¼ to 3¾; Herodsfoot, 2¾ to 3; West Assheton, 3¼ to 3½; Richmond, 10 to 10⅝; Santa Barbara, 2 to 2½.

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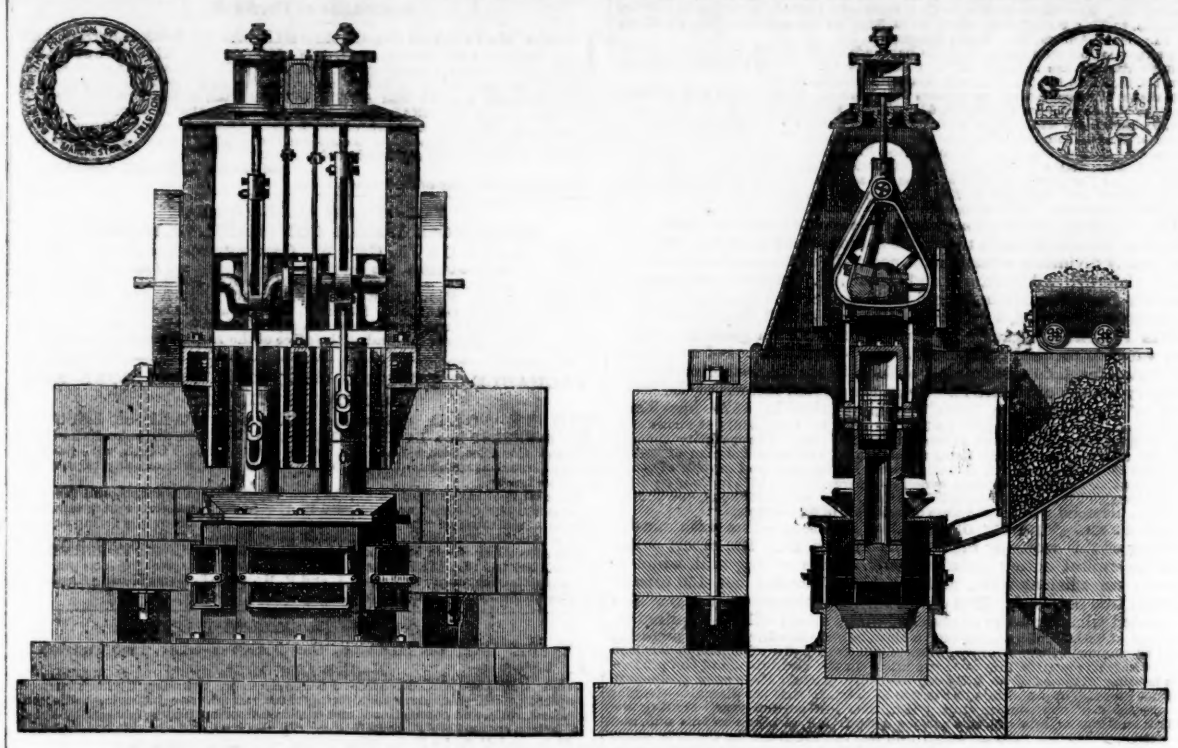

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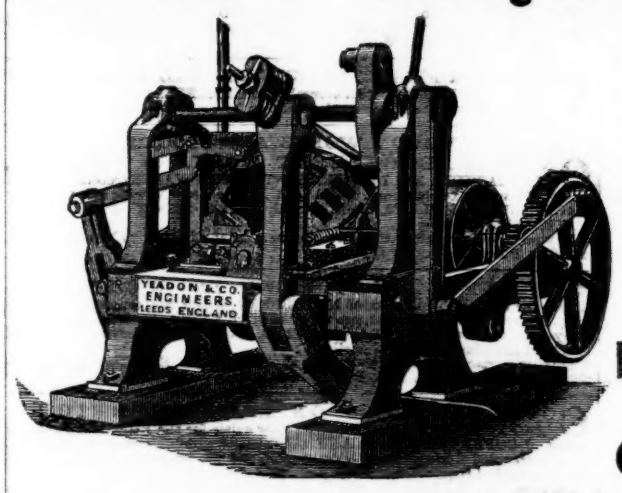

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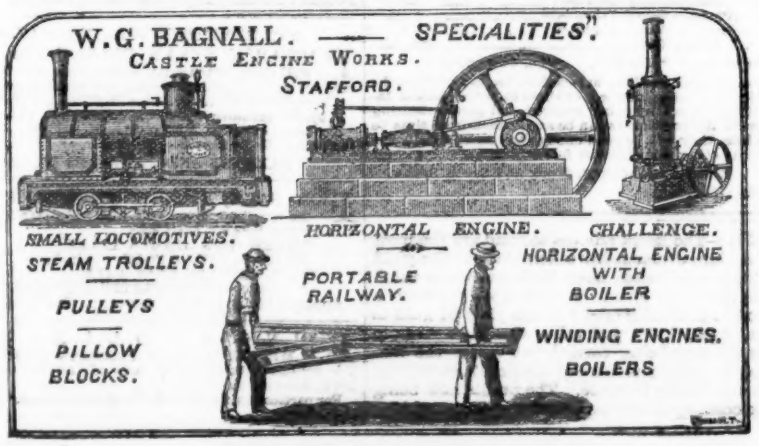

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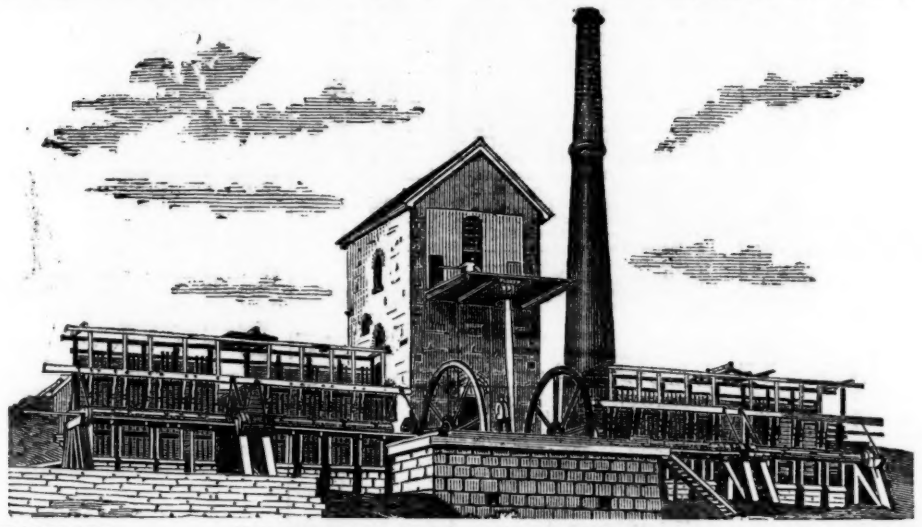

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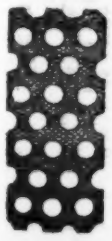

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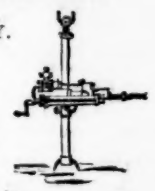

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1000	Carn Brea, *c*, *t*, Illogan†§	56 7 6	55	60 62½	308 0 0	1 0 0	Feb. 1874
10240	Devon Gt. Consols, *c*, *a*, Tavistock*†	1 0 0	6½	6 6¼	116 15 0	0 5 0	July 1877
4296	Dolcoath, *c*, *t*, Camborne	10 14 10	52½	54 56	114 1 3	0 10 0	Oct. 1879
6400	East Pool, *t*, *c*, Illogan	0 9 9	22	22½ 23	16 15 3	0 9 0	Oct. 1879
40000	Glasg. Car., *c** [30000sh. £1 pd., 10000 15s. pd.]		⅞	⅝ ⅞	0 13 10	0 0 6	Aug 1878
8500	Gorsedd and Merllyn Con., *l*, Flint.	2 10 0	2½	1½ 2½	0 5 0	0 5 0	Aug. 1877
15000	Great Laxey, *l*, Isle of Man*†	4 0 0	18½	18 19	25 0 0	0 5 0	Oct. 1879
6400	Green Hurth, *l*, Durham*	0 5 0	5½	5 5½	2 5 0	0 3 0	Aug. 1879
20000	Grogwinion, *l*, Cardigan*	2 0 0	3¾	3¼ 3¾	0 14 10	0 1 10	Aug. 1878
2800	Isle of Man, *l*, Isle of Man*	25 0 0	—		82 5 0	0 10 0	Feb. 1879
20000	Leadhills,* *l*, Lanarkshire	6 0 0	4¾	4⅜ 4⅝	0 15 0	0 3 0	Mar. 1878
400	Lisburne,* *l*, Cardiganshire	18 15 0	35	30 35	599 10 0	1 0 0	Dec. 1879
10000	Mellanear, *c*, Hayle*	2 0 0	4½	4¼ 4½	0 12 0	0 2 0	Nov. 1879
9000	Minera Mining Co., *l*, Wrexham*	5 0 0	12	10 12	68 5 2	0 2 0	Nov. 1879
20000	Mining Co. of Ireland, *cl*, *c*, *l**	7 0 0	—		23 17 6	0 2 6	Jan. 1878
888	North Busy, *t*, *c*, Chacewater	1 14 0	4	3 4	1 0 0	0 5 0	Oct. 1878
11829	North Hendre, *l*, Wales	2 10 0	7¼	7 7¼	3 2 6	0 5 0	Sept. 1879
8063	Ditto	1 0 0	3	2⅞ 3	0 4 0	0 2 0	Sept. 1879
10000	Pant-y-Mwyn, *l*, Mold (8794 sh. iss)	2 0 0	3	2½ 3	0 3 0	0 2 0	Aug. 1878
6000	Pennant, *l*, *bar*, North Wales*	5 0 0	4½	4 5	0 10 0	0 5 0	Mar. 1878
18000	Prince Patrick,* *s-l*, Holywell	1 0 0	—		0 15 0	0 0 6	July 1879
12000	Ditto, pref. (8000 sh. issued)	0 10 0	—		0 1 6	0 0 6	July 1879
10000	Red Rock,* *l*, Cardigan	2 0 0	2	1½ 2	0 4 0	0 2 0	Jan. 1878
12000	Roman Gravels, *l*, Salop*	7 10 0	13	12 12½	8 10 0	0 5 0	Dec. 1879
512	South Caradon, *c*, St. Cleer†	1 5 0	80	70 75	744 10 0	1 0 0	Nov. 1878
6123	South Condurrow, *t*, *c*, Camborne†	6 5 6	12½	12½ 13½	5 17 0	0 10 0	Aug. 1879
4500	South Wheal Frances, *t*, Illogan†	7 12 4	10½	10¾ 11	39 9 6	0 15 0	Dec. 1879
12000	Tankerville, *l*, Salop*†	6 0 0	6¼	5¾ 6	4 17 6	0 5 0	Jan. 1877
6000	Tincroft, *c*, *t*, Pool, Illogan†§	11 10 0	16	16 17	50 8 6	0 5 0	May 1877
15000	Van, *l*, Llanidloes*	4 5 0	24½	23 25	24 0 6	0 5 0	July 1879
3000	West Chiverton, *l*, Perranzabuloe†§	17 5 0	3	1½ 2	55 10 0	0 10 0	Feb. 1878
512	West Tolgus, *c*, Redruth	95 10 0	26	25 27	33 0 0	1 0 0	Jan. 1879
600	West Wheal Seton, *c*, Camborne†§	51 0 0	47½	45 50	446 0 0	0 15 0	Apr. 1878
1024	Wheal Eliza Consols, *t*, St. Austell	18 0 0	—		27 10 0	2 0 0	Oct. 1879
3000	Wheal Peevor, *t*, Redruth	7 11 0	19½	20 22	2 8 6	0 16 0	Oct. 1879

FOREIGN DIVIDEND MINES.

Shares.	Mine	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, *l*, Spain*†	2 0 0	2	1½ 2	1 19 9	0 0 6	Oct. 1878
30000	Almada and Tirito Consol., *s**†	1 0 0	7/16	5/16 7/16	0 6 3	0 1 0	May 1876
20000	Australian, *c*, South Australia†	7 7 6	2	1½ 2	1 3 6	0 2 0	Aug. 1879
20000	Cape Copper Mining,*† South Africa	7 0 0	35 xd	33 35 xd	36 10 0	0 12 6	Dec. 1879
35000	Cesena Sulph. Co., Romagna, Italy*	10 0 0	—		0 19 0	0 1 0	Aug. 1879
10000	Copiapo, *c*, Chili* (£20 shares)	16 15 0	—		7 11 5	0 3 0	May 1877
23500	Eberhardt and Aurora, *s*, Nevada*†	10 0 0	3¼	2½ 3¼	1 8 0	0 3 0	Dec. 1877
10000	English and Australian,† *c*, S. Aust.	2 10 0	1¾	1½ 1¾	2 17 9	0 1 0	Mar. 1879
25000	Fortuna, *l*, Spain*†	2 0 0	6	5½ 6	7 6 5	0 1 6	Sept. 1879
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0 0	2¾	2⅝ 2⅞	0 3 6	0 1 0	Feb. 1879
15000	Linares, *l*, Spain*†	3 0 0	6	5½ 6	17 14 10	0 2 0	Sept. 1879
10000	Pontgibaud, *s-l*, France†	20 0 0	20	19 20	27 17 6	0 10 9	Dec. 1879
100000	Port Phillip, *g*, Clunes*† (£2 shares)	1 0 0	⅝	⅜ ⅝	1 12 0	0 1 0	Mar. 1879
54000	Richmond Consol., *s*, Nevada*†	5 0 0	10	9¾ 10¼	7 16 6	0 7 6	Nov. 1879
40000	Santa Barbara,* *g*, Brazil	0 10 0	2¼	2 2¼	0 8 9	0 1 6	Nov. 1879
120000	Scottish-Australian Mining Co.*†	1 0 0	2⅛	1⅞ 2⅛	15 p. cent.		May 1879
80000	Ditto, New	0 10 0	1⅛	⅞ 1⅛	15 p. cent.		May 1879
22500	Sierra Buttes, *g*, California*†	2 0 0	1⅞	1½ 1¾	2 0 6	0 1 6	Apr. 1879
40625	Ditto, Plumas Eureka	2 0 0	2¾	2⅝ 2⅞	2 7 0	0 3 0	Oct. 1879
£253000	St. John del Rey*† (£5 Stock and multiples dealt in)			270 280	12½ p.c. for half-year		June 1879
25000	Victoria* (London), *g*, Australia	1 0 0	⅛	⅜ ½	0 13 1½	0 0 7½	June 1879
2100	W. Prussian (5500 pref. sh. £10 pd.)	10 0 0	10½	10 10½	1 14 0	0 4 0	Oct. 1879

§ Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.	Mine	Paid.	Last wk.	Clos pr.
2560	Aberllyn,* *l*, *bl*, Carnarvon	10 0 0	11	10 11
12000	Assheton, *l*, Carnarvonshire*	5 0 0	1⅛	⅞ 1⅛
11583	Bedford Unit.,* *c*, Tavis (£1 liab.)	0 4 0	¾	½ ¾
30000	Bettws-y-Coed,* *l* (20000 sh. issued)	1 0 0	1½	1 1½
8000	Blaen Caelan,* *l*, Cardigan	3 0 0	3	2⅞ 3⅛
3939	Blue Hills, *t*, *c*, St. Agnes	4 6 6	⅞	¾ ⅞
30000	Bodidris,* *l*, *bl*, Denbighshire	1 0 0	1⅝	1⅜ 1⅝
200	Botallack, *t*, *c*, St. Just‡	126 5 0	90	70 80
10000	British, *s-l*, Wrexham	2 0 0	3	2½ 3
256	Browngelly, *c*, St. Neot	0 10 0	1½	1 1½
20000	Bwlch United,* *l* (£1 sh.) Cardigan	0 12 6	3½	3 3½
50000	Cambrian,* *s-l*, *c*, Cardiganshire	2 0 0	2¼	2 2¼
20000	Cen. Foxdale, *l*, I. of Man* (£2 sh.)	1 5 0	—	
5120	Clementina, *l*, Llanrwst*	1 0 0	1⅜	1 1⅛
25000	Coed Mawr Pool,* *l*, Carnarvon	2 0 0	—	
7500	Combellack,* *t*, Wendron	2 0 0	—	
8000	Combmartin, *s-l*, North Devon	0 8 6	⅝	½ ⅝
2450	Cook's Kitchen, *t*, Illogan†§	27 4 9	3½	3 3½
10000	Cornwall Great Consols, Callington.	4 0 0	7	6½ 7
6400	Crook Burn,* *l*, Cumberland	0 5 0	¼	¼
14000	Crosswood Mining Lands, *l**	1 0 0	1½	1 1½
15000	Cwm Brwyno,* *l*, Cardigan	2 0 0	2½	2 2½
15000	Cwm Dwyfor,* *c*, *s-l*, Wales	1 0 0	—	
1280	D'Eresby Consols, *l*, *bl*, Carnarvon	10 0 0	6	4 6
1024	D'Eresby Mountain, *l*, *bl*, Llanrwst.	20 0 0	40	30 40
20000	Denbighshire Consolidated,* *l*	3 0 0	3	2 3
12000	Derwent,* *l*, Durham	4 0 0	2¾	2¼ 2¾
10000	Dubby Syke, *l*, Durham*	0 15 0	6s.	6s.
5000	East Black Craig,* *l*, Scotland‡	5 0 0	—	
6144	East Caradon, *c*, St. Cleer‡	3 4 6	3	2½ 3
4000	East Chiverton, *l*, Perranzabuloe	9 10 3	2¾	2½ 2¾
3000	East Craven Moor,* *l*, Pateley Bdg.	10 0 0	9	8 9
12000	East Crebor, *c*, Tavistock	0 1 0	1⅛	1 1¼
300	East Darren,* *l*, Cardiganshire‡	32 0 0	—	
30000	East Florida,* *s-l*, Cardiganshire	1 0 0	—	
6000	East Goginan, *l*, Cardigan	2 0 0	—	
10000	East Longstone,* *s-l*, Lezant	1 0 0	1⅛	1 1⅛
21000	East Roman Gravels,* *l*, Salop	0 10 0	⅞	¾ ⅞
9000	Ditto, 6 per cent. pref. (fully pd.)	1 0 0	—	
18000	East Van, *l*, Llanidloes*	5 0 0	2½	2¼ 2½
1114	East Wheal Lovell, *t*, Helston	10 8 6	2	1½ 2
30000	Flintshire Great Consols	1 0 0	—	—
6000	Florence,* *s-l*, *bl*, St. Ive	5 0 0	5	5
12500	Frongoch, *l*, Cardgn (11000 sh. iss.)	2 0 0	3¾	3¼ 3¾
3950	Gawton, *c*, Tavistock	4 9 6	¼	⅛ ¼
14000	Glenroy,* *s-l*, Isle of Man	4 5 0	1⅛	⅞ 1⅛
20000	Goreu,* *s-l*, Carmarthen	1 0 0	—	
20000	Great Dyliffe,* *s-l*, Montgomery	1 0 0	1½	1 1½
20000	Gt. E. Foxdale, *l*, I. of Man (£1 sh.)	0 18 0	—	
12000	Great Holway,* *l*, Flintshire	5 0 0	5	4½ 5
6000	Great Wh. Eleanor, *t*, North Bovey	1 17 6	⅜	¼ ⅜
20000	Griffin, *s-l*, Carnarvon	1 0 0	1¼	1 1¼
9880	Gunnislake (Clitters), *t*, *c*‡	5 5 0	2	1¾ 2
10000	Gwern-y-Mynydd,* *s-l*, Flintshire	4 0 0	5½	5¼ 5¾
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 5 0	—	
1200	Hartington Moor,* *carb. l*, Derby	1 1 0	2	1½ 2
6400	Harwood,* *l*, Durham	0 15 0	1s. 6d.	1s. 6d.
3000	Herodsfoot, *l*, near Liskeard†	1 0 0	3⅜	2⅞ 3⅛
8000	Hingston Down, *c*, Calstock*†	0 7 0	⅝	½ ⅝
6000	Killifreth, *t*, Chacewater	2 12 6	½	⅜ ⅝
30000	Lady Ashburton,* *s*, Callington	1 0 0	—	
12000	Ladywell,* *l*, Salop	2 10 0	1	¾ 1
12000	Ditto, 10 per cent. pref., £1 each.	0 10 0	½	¼ ½
5000	Lead Era,* *l*, Mold	2 10 0	3⅛	2⅞ 3⅛
2500	Levant, *c*, *t*, St. Just	10 14 6	—	
6000	Livingstone Consols, *t*, St. Agnes	0 10 0	½	½
15000	Llandegla,* *l*, Llanarmon	1 0 0	1½	1 1⅛
6000	Llansawel,* *l*, Wales	5 0 0	6½	6 6½
10000	Lomax, *s-l*, Perranzabuloe	1 0 0	—	
5120	Lovell, *t*, Wendron	0 16 0	1¼	1 1¼
30000	Llanrwst,* *l*, Carnarvon	2 0 0	1⅜	1⅛ 1⅜
7500	Ditto, 10 per cent. pref.	2 0 0	2¼	2¼ 2½
9000	Marke Valley, *c*, Linkinhorne‡	5 3 6	1½	1⅜ 1⅝
1800	Mawston,* *l*, South Wales	1 0 0	2	1⅛ 1⅜
6000	Medlyn Moor, *t*, Wendron	3 15 10	—	
11000	Melyndwr, *l*, Cardigan*	3 0 0	—	
28000	Mid-Devon,* *c*, Devon	0 6 8	⅝	½ ⅝
17000	Ditto	0 3 4	½	⅜ ½
8000	Mineral Corporation of Gt. Britain*	10 0 0	13	12 13
11000	Monydd Gorddu, *l*, Cardigan* (Red)	5 0 0	2	1½ 2
12000	Morfa Du, *z*, *g*, *s*, Anglesea*	1 0 0	¾	⅝ ¾
12000	Mwnbwll,* *l*, Flintshire	2 10 0	—	
25000	Nant-y-Ronen, *s-l*, Cardigan*	1 0 0	—	
4678	New Bronfloyd,* *l*, Cardig. (£5 sh.)	3 16 0	—	

NON-DIVIDEND MINES—*continued.*

Shares.	Mine	Paid.	Last wk.	Clos pr.
12000	New Cathedral,* *c*, *t*, Gwennap	1 0 0	1¼	1 1¼
2400	New Cook's Kitchen, *t*, Illogan	6 15 0	5	5 5¼
3000	New Cwmystwith,* *l*, Cardigan	5 0 0	—	
8000	New Dolcoath, *t*, *c*, Camborne*	3 0 0	1¼	1⅛ 1¼
3500	New Tincroft,* *t*, Lelant	6 0 0	—	
5000	North Alfred Consols, *c*, Phillack‡	8 2 0	1¼	1 1¼
10000	N. D'Eresby Mount.,* *l*, *bl*, Carnarv.	1 0 0	1¼	1 1¼
2000	North Levant, *t*, *c*, St. Just‡	13 6 0	5	3 5
50000	North Molton, *c*, *mn*, *i*, Devon	1 0 0	1	1
6000	North Penstruthal,* *t*, *c*, Gwennap‡	0 10 0	1¼	¾ 1
2936	North Treskerby, *c*, St. Agnes	8 17 10	—	
12000	Pandora,* *l*, Carnarvon	2 0 0	1	¾ 1
6000	Park Valley,* *s-l*, North Devon	0 4 0	¼	⅛ ¼
6000	Parracombe, *s-l*, Devon	0 5 0	—	
45000	Parys Corporation,* *c*, Anglesea	1 0 0	1½	1⅝ 1⅞
7500	Pateley Bridge, *l*, Yorkshire	1 0 0	⅞	¾ 1
15000	Ditto (also 7500 sh. not issued)	0 17 0	—	
12000	Pen-yr-Orsedd,* *l*, Flintshire	1 0 0	1¼	1 1¼
5000	Penhalls, *t*, St. Agnes‡	3 17 6	2	1½ 2
15000	Perran Consols, *s-l*, Perranzabuloe	1 0 0	—	
12000	Phœnix, & W. Phœnix, *t*, *c*, Link.§	5 10 3	5	4 5
80	Plas Ddu and Park,* *l*, Wales	5 0 0	5	4 5
7000	Picton,* *s-l*, Holywell, fully paid	1 0 0	½	⅜ ½
6000	Plympton Mining and Arsenic*	1 0 0	3½	3¼ 3½
12000	Plynlimmon, *l*, Llanidloes*	2 0 0	6s.	4s. 6s.
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	½	2 2½
2000	Prideaux Wood, *t*, Llanivery	5 0 0	—	
12000	Prince of Wales, *c*, *s*, Calstock	0 7 6	¾	½ ¾
5000	Rhydalun,* *l*, Mold	10 0 0	—	
50000	So. Cambrian,* *l*, Cardiganshire	1 0 0	1¾	1½ 1¾
9000	South Darren, *l*, Cardigan*	1 10 0	3⅛	3 3¼
30000	South de Eresby Mountain, *l*	1 0 0	1⅞	1⅝ 1⅞
512	South Dolcoath, *c*, *t*, Redruth	12 5 0	—	
6000	South Roskear, *t*, *c*, Camborne	8 5 0	—	
6000	South Tolcarne, *t*, *c*, Camborne	2 8 0	¾	½ ¾
40000	South Wheal Crebor*, *c*, Tavistock	1 0 0	1⅜	1¼ 1⅜
2043	South Wheal Crofty, *c*, Illogan	16 7 0	4½	5½ 6
6000	St. Lawrence, Amal., *l*, Flintshire*	2 0 0	—	
10000	St. Patrick, *l*, Halkin, Holywell*	1 0 0	1	¾ 1
30000	Talybont,* *s-l*, Cardiganshire	1 0 0	—	
40000	Tamar, *s-l*, Bearalston*	1 0 0	1¾	1½ 1¾
6400	Teesdale,* *l*, Durham (pref.)	1 0 0	½	⅜ ½
10000	Temple, *l*, Cardigan*	1 0 0	—	
5000	Treleigh Wood, *t*, Redruth	6 1 0	—	
12000	Trethellan, *s-l*, Cranstock*	2 0 0	—	
640	Truro,* *l*, Nerquis, Flintshire	10 0 0	—	
5000	Tyn-y-Fron,* *l*, Cardigan	1 0 0	1½	1 1½
5000	Ditto	0 7 6	½	⅜ ½
10000	Van Cons. and Glyn,* *l*, Llanidloes.	2 0 0	¾	⅝ ⅞
1000	Vaughan,* *l*, Cardiganshire	10 0 0	—	
18000	Victor,* *l*, Flintshire (£1 share)	0 5 0	—	
12000	West Assheton, *l*, Carnarvon	1 0 0	3⅝	3¼ 3¾
6000	West Basset, *c*, Illogan†‡	7 0 4	12½	12 12½
3000	W. Craven Moor, *l*, Pateley Brdge*	10 0 0	8	7 8
12000	West Goginan,* Cardiganshire	2 0 0	¼	⅛ ¼
12000	West Holway, *l*, Flintshire	1 0 0	1½	1 1½
6000	West Kitty, *t*, St. Agnes	0 2 0	2½	1½ 1⅜
3000	West Mary Ann, *l*, Menheniot	1 0 0	1	¾ 1
100	Westminster Bog Issa, Llanarmon	5 0 0	6	5 6
20000	West Pateley Bridge,* Yorkshire, *l*.	1 0 0	—	1⅞ 2⅛
1783	West Poldice, St. Day‡	11 0 0	—	
1000	Wt. Roskear, *t*, *s-l*, *bl*, *c*, Camborne.	5 10 0	—	
2048	West Wheal Frances, *t*, Illogan‡	29 6 3	12	11 12
3000	West Wheal Peevor, *t*, Redruth	1 5 0	6½	6 6½
12000	West Wye Valley,* *l*, Montgomery.	3 0 0	1	¾ 1
6000	Wheal Agar, *c*, Illogan‡	13 15 0	6½	6¼ 6½
6144	Wheal Basset, *c*, Illogan‡	33 2 6	2½	2¼ 2½
6000	Wheal Coates, *t*, St. Agnes	2 0 0	—	
2585	W. Comford, & No. Tres., *c*, Gwennap	1 17 0	2¾	2½ 2¾
6000	Wheal Crebor, *c*, Tavistock	4 8 0	7	6¾ 7¼
5179	Wheal Grenville, *c*, Camborne	4 15 0	5¼	4½ 5
2048	Wheal Jane, *t*, Kea‡	5 13 10	5	4½ 5
4295	Wheal Kitty, *t*, St. Agnes‡	5 4 6	2½	2 2¼
80	Wheal Owles, *t*, St. Just‡	178 15 0	100	100 110
12000	Wheal Russell, *c*, Tavistock	2 1 6	—	
1000	Wheal Sisters, *t*, Lelant	16 10 0	17½	15 17½
4096	Wheal Uny, *t*, *c*, Redruth	15 1 0	1½	1 1½
10000	Wye Valley, *l*, Montgomery*	3 0 0	¾	½ ¾

bl, blende; *c*, copper; *g*, gold; *l*, lead; *s*, silver; *sl*, slate; *s-l*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic.
* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

NON-DIVIDEND FOREIGN MINES; FOREIGN AND MISCELLANEOUS STOCKS; TRAMWAYS; INSURANCE COMPANIES; GAS, IRON AND COAL, WAGON COMPANIES, &c.

NON-DIVIDEND FOREIGN MINES.

Shares.	Mine	Paid.	Clos. pr.
15000	Birdseye Creek, *g*, California*	4 0 0	⅜ ⅝
30000	Blue Tent, *hyd*, California	5 0 0	1⅞ 2⅛
10000	Buena Ventura,* *l*, Spain (£2 sh.)	0 15 0	
15000	Canada, *g*, Canada	1 0 0	1½ 1¾
34433	Cedar Creek, *g*, California*	5 0 0	
15000	Chicago, *s*, Utah*	10 0 0	
49935	Chontales, *g*, *s*, Nicaragua*†	2 0 0	¼ ½
75000	Colombian Hydraulic, *g*, Colombia	1 0 0	
65000	Colorado United, *s-l* Colorado*†‡	5 0 0	1½ 1¾
100000	Don Pedro North del Rey*	1 0 0	¼ ⅜
20000	English Australian, *g*, Victoria*	1 0 0	
100000	Exchequer, *g*, *s*, California*†	1 0 0	⅛ ¼
100000	Frontenac,* *l*, Ontario, Canada	1 0 0	
10000	Hornachos,* *s-l*, Spain	10 0 0	11 12
12000	Hultafall,* *l*, *bl*, Orebro, Sweden	5 0 0	1½ 1¾
12000	Hunter Consolidated, *s-l*, Utah	10 0 0	
7500	Isabelle, *g*, *s*,* California (£20 sh.)	5 0 0	
100000	I.X.L., *g*, *s*, California*	1 0 0	
50000	Javali, *g*, Nicaragua*	2 0 0	⅛ ¼
20000	Last Chance,* *s*, Utah	5 0 0	⅜ ⅝
65000	London and California, *g**†‡	2 0 0	⅝ ⅞
7587	Lusitanian, Portugal*† (£5 sh.)	4 15 0	
9000	Missouri, *l*, pref (fully paid)	10 0 0	10 11
40000	Nava de Jadraque,* *g*, *s*, Spain	1 0 0	
66000	New Quebrada, *c*, Venezuela	5 0 0	3⅜ 3⅝
100000	Nouv. Monde, *g*, Venez. (en com.)	1 0 0	⅞ 1¼
3000	Oregon, *g*, Oregon, U.S. (pref. sh.)	4 0 0	
50000	Panulcillo, *c*, Chili*† (£80000 Deb.)	4 0 0	4¾ 5
80000	Pestarena United, *g*, Italy*†	3 0 0	¼ ½
25000	Pitanqui,* *g*, Brazil (in. 6000 £1 pd)	0 8 6	
26000	Placerville, *g*, *q*, California	2 0 0	2⅜ 2½
40000	Ravenscliff, *g*, N. Zlnd; *c*, S. Aust.	0 5 0	
1898320	Rio Tinto,* *c*, Huelva, Spain	Stock	90 91
44950	Ditto 7 p. c. Mort. Bonds	20 0 0	19¾ 20¼
225000	Ditto shares	10 0 0	8¼ 9¼
100000	Rossa Grande, *g*, Brazil*† (£1 sh.)	1 0 0	
25300	Ruby and Dunderberg, *g*, Nevada*	10 0 0	4½ 5
200	Ditto (10 per cent. deb. conv.)	50 0 0	
32000	Sentein,* *s.l*, *bl*, Ariège, France	1 0 0	
10000	Silver Plume, *s*, Colorado	1 0 0	
20000	Tolima,* *g*, *s*, Colombia	5 0 0	
43174	United Mexican,*†‡ *s*, Mexico	29 2 6	2½ 3
50000	Virneberg, *c*, Rheinbreitb., Ger.*	2 0 0	
15000	Western Andes, *s*, Colombia	5 0 0	
75000	Yorke Peninsula, *c*, So. Australia	1 0 0	⅛ ¼
54800	Yorke Pen., *c*, South Aust. Pref.	1 0 0	⅞ 1⅛

GAS COMPANIES.

Issue.	Shares.	Company	Pd.	Clos. pr.
5000	20	Bahia [L]	all	13 15
40000	5	Bombay [L]	all	6 6½
10000	5	Ditto, New [L]	4	½ 1 pm
29700	Stk	Brentford Consolidated	100	148 153
14000	20	British	all	33 35
550000	Stk	Commercial	100	176 179
20000	20	Continental Union [L]	all	18½ 19½
20000	20	Do. do. New, 1869, 1872	14	1½ ½ dis
10000	20	Do. do. 7 per ct. Preference	all	23½ 24½
23406	10	European [L]	all	17½ 18½
4094850	Stk	Gaslight and Coke, A, Ord.	100	171 174
50000	10	Ditto, 4th issue	all	16½ 17½
50000	10	Ditto, 5th issue	all	15½ 16½
284200	Stk	Do, 4 per cent. Deb. Stock	100	98 100
5000	10	Hong Kong and China	all	14½ 15½
2800000	Stk	Imperial Continental	100	170 173
386500	Stk	London	100	168 171
12000	5	Malta & Mediterranean [L]	all	2 2½
100000		Metrop. of Melbourne 6 p.c. Deb.		103 106
25000	20	Monte Video [L]	all	13½ 14½
10000	5	Ottoman [L]	all	2 2¼
30000	5	Oriental [L]	all	7 7½
27000	20	Phœnix	all	35½ 36½
300000	Stk	Do., New Max. div. 7½ p.ct.	80	121 125
37500	20	Rio de Janeiro [L]	all	26 27
600000	Stk	South Metropolitan, A	100	197 201
250000	Stk	Ditto, ditto, B	100	185 190

INSURANCE COMPANIES.

Issue.	Shares.	Company	Pd.	Clos. pr.
50000	100	Alliance British and Foreign	11	28 29
10000	100	Ditto, Marine	20	28 30
100000	10	Anglo-French Fire [L]	2	2½ 3
50000	30	British and Foreign Marine [L].	4	13½ 14pm
50000	50	Commercial Union	5	14½ 15pm
50000	50	Eagle	5	5½ 6
25000	20	Globe Marine [L]	11	1 dis par
7500	100	Imperial Life	10	20 22
13453	100	Indemnity Marine	50	96 98
49626		L'pool & Lond. Globe (£1 annty)		13¼ 13⅝pm
35862	25	London	12½	61 63 pm
40000	25	London and Lancashire Fire	2½	3¾ 4 pm
50000	20	London and Provincial Marine	—	2⅛ 2⅜ pm
10000	100	Marine	18	78 81
50000	10	Merchants' Marine	2	1¾ 1¼ dis
50000	10	Maritime	2	3⅛ 3¼ pm
40000	50	North British Mercantile	8¾	44 46
30000	100	Northern	5	40¾ 41¼
40000	25	Ocean Marine	5	2½ 3½ pm
	—	Phœnix Fire	—	300 305
200000	10	Queen	1	2¼ 2¾pm
100000	10	Railway Passengers	29s.	7 8
200000	5	Rock Life	½	8 8¼
50000	10	Sea	2	2⅜ 2½ pm
20000	10	Scottish Commercial	1	12s. 17s. pm
4000	20	Standard Marine	4	3⅛ 3⅜ pm
10000	20	Thames and Mersey Marine [L].	2	6½ 6¾pm
40640	20	Union Marine, Liverpool [L]	5	3½ 4 pm
50000	20	Universal Marine [L]	5	5 5½ pm

WAGON COMPANIES

Shares.	Company	Pd.	Clos. pr.
10	Birmingham Wagon Co. [L]	£10 0	15½ 16
10	Ditto 2nd issue	4 0	1½ 2 pm
10	Ditto pref., 6 per cent.	10 0	11 11½
20	British Wagon Co. [L]	10 0	1¼ 1¾ pm
10	Gloucester [L]	10 0	9¼ 9¾
10	Ditto 5th issue	5 0	¼ ⅛ dis
10	Met. Rail. Car. & Wagon Co. [L]	5 0	2¾ 3 pm
5	Ditto pref., 6 per cent.	5 0	par ¼ pm
10	Midland Rail. Car. & Wag. [L]	10 0	11½ 12
10	Ditto pref., 6 per cent.	1 0	¼ dis par
20	North Central Wagon Co.	20 0	—
5	Rail. Car. [L] Oldbury	5 0	5 5¼
5	Ditto pref., 6 per cent.	5 0	5 5½
20	Sheffield Wagon Co. [L]	15 0	¼ ¾ pm
10	Yorkshire Wagon Co. [L]	10 0	¼ ¾ pm

FOREIGN AND MISCELLANEOUS STOCKS.

Stock	Closing prices.
Argentine, 1868, 6 per cent.	91 92
Bolivia, 6 per cent. Bond Com. Cert.	36 37
Brazilian, 1865, 5 per cent.	95 97
Chilian, 1866, 7 per cent.	96 98
City of Melbourne, 5 per cent., 1896-1907	102 103
City of Ottawa, 6 per cent. Sterling	106 108
City of Providence, 5 per cent. coupon bonds	104 106
City of Quebec 6 p. cent. Con. Fnd. Stg. Loan	105 107
City of Toronto, 6 p. ct. Stlng. Bnds, 1897-1904	109 111
Egyptian Government pref.	81 81½
Ditto, Unified Debt	51¼ 51¾
Ditto, 7 per cent. V.M.L.	84 86
Ditto, 9 per cent. guaranteed	85 87
Ditto, K. Daira Sanieh	67½ 68½
Foreign and Colonial Gov. Trust, preferred	106 108
Ditto, 5 per cent., deferred	100 102
Peruvian, 1870, 6 per cent.	14¾ 15¼
Ditto, 1872, 5 per cent.	12¾ 13¾
Russian, 5½ per cent. L. Mort.	—
Spanish, Quicksilver, Mort. 5 per cent.	101 103
United States Mort. 6 per cent.	102 104

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Price.
£100	Abbot, John, and Co [L]	£75 0	25 27½ dis
15	Albion Steel and Wire Co. [L]	14 0	— —
5	Alltami Colliery Co. [L]	5 0	2½ 3
100	Ashbury Co. [L]	90 0	54 50 dis
3	Bagnall, John, and Sons [L]	3 0	1⅝ 1¾
10	Benhar Coal Co. [L]	10 0	2¼ 2⅜
50	Bilbao Iron Co. [L]	50 0	16¾ 17¼
50	Bilson & Crump Mdw Coll [L]	10 0	—
100	Bolckow, Vaughan, & Co. [L] A	60 0	18¾ 19¼ pm
50	Brown, Bailey, and Dixon [L]	40 0	21 20 dis
100	Brown, John, and Co. [L]	70 0	10¾ 10¼ dis
3	Cakemore, Cseway. Grn. ord. sh.	3 0	—
3	Ditto (7½ per cent. pref.)	3 0	—
100	Cammell and Co. [L]	80 0	9¼ 9 dis
20	Cannock & Huntington Coal [L]	10 0	9½ 9 dis
10	Central Swedish Iron & Stl. [L]	10 0	1 1½
5	Chapel House Colliery	5 0	1¼ 1¾
50	Charlton Iron Co. [L]	50 0	7 8
50	Chatterley Iron Co. [L]	50 0	5 8
10	Chillington Iron Co. [L]	10 0	4¼ 4½
10	Consett Iron Co. [L]	7 10	10 12 pm
1	Consett Spanish Ore [L]	1 0	⅛ ⅜ pm
50	Cooke, William, and Co. [L]	45 7	35 32½ dis
20	Darlington Iron Co. [L]	15 0	9¼ 8¾ dis
10	Davy Brothers [L]	22 10	4 3½ dis
23	Ebbw Vale Co. [L]	20 0	12 11¾ dis
100	Fox, Samuel, and Co. [L]	80 0	—
10	Genl. Mining Ass. [L] (1*l*. rtd.)	9 0	3¾ 4¼
15	Hopkins, Gilkes, and Co. [L]	15 0	—
50	Knowles, Andrew, and Co. [L]	22 0	3¼ 2¾ dis
10	Llay Hall Coal, Iron, &c. [L]—	10 0	—
50	Llynvi, Ogmore, & Tondu [L]	50 0	5 5½
10	Lydney & Wigpool Iron Ore [L]	9 5	8 7 dis
10	Marbella Iron Ore Co. [L]	10 0	1 1½
10	Midland Iron Co. [L]	5 0	2¾ 2½ dis
10	Monkland Iron & Coal Co. [L]	10 0	1⅜ 1⅝
4	Mwyndy Iron Ore [L]	3 15	2¼ 1¾ dis
100	Nant-y-Glo & Blaina (8 p.c. prf.)	100 0	23 24
3	Nerbudda Coal and Iron [L]	2 0	1¾ 1½ dis
10	Newport Abercarn Coal Co. [L]	10 0	6¼ 6¾
10	Northmptn. Coal, Iron, &c. [L]	8 0	—
10	Northfield Iron Co. [L]	8 10	8 7½ dis
35	Palmer's Shipbldg. & Iron [L]	35 0	8¾ 8¼ dis
100	Parkgate Iron Co. [L]	65 0	½ dis par
20	Patent Shaft and Axletree [L]	10 0	1 ¾ dis
20	Pelsall Coal and Iron [L]	17 10	3 2¾ dis
50	Rhymney Iron Co. [L]	50 0	22 24
10	Sandwell Park Colliery Co. [L]	10 0	22½ 25
100	Shotts Iron Co. [L]	100 0	35 40
100	Sheepbridge Iron and Coal [L]	80 0	16 15 dis
50	Silkstone & Dodw. Cl. & Iron [L]	45 0	39 37 dis
50	Somorrostro Iron Co. [L]	50 0	—
100	Staveley Iron and Coal Co. [L]	60 0	24½ 25 pm
100	Ditto ditto New	10 0	3⅜ 3⅝ pm
50	Tredegar Iron and Coal, A [L]	26 0	6½ 6 dis
25	Ditto ditto B	25 0	21¾ 22¼
20	Ulverston Mining Co. [L]	16 0	11 9 dis
10	Vancouver Coal [L]	6 0	2½ 1½ dis xd
100	Vickers, Sons, and Co. [L]	100 0	2 1 dis
25	W. Cumberland Iron & Steel [L]	20 0	5 4½ dis xd

TELEGRAPH COMPANIES.

Shares.	Company.	Paid.	Price.
Stk.	Anglo-American	100 0	56½ 57
10	Brazilian Submarine	10 0	7½ 7¾
20	Direct United States Cable	20 0	10¼ 10½
10	Eastern	10 0	8⅜ 8⅝
10	East. Exten. Austr. and China	10 0	8¼ 8½
10	Great Northern	10 0	8⅞ 9⅛
25	Indo-European	25 0	22½ 23½
10	Mediterranean Extension	10 0	2¾ 3¼
8	Reuters	8 0	10 11
Stk.	Submarine	100 0	225 235
10	West India and Panama	10 0	1⅝ 1⅞
20	Western and Brazilian	20 0	5⅜ 5⅝
$1000	West. Union, 7 p.c. Mort. Bonds	$1000	120 125

TRAMWAYS.

Issue.	Shares.	Company	Pd.	Clos. pr.
40000	5	Anglo-Argentine [L]	all	4⅛ 4⅜
10000	10	Barcelona [L]	all	10½ 11
7140	10	Belfast Street Tramways	all	8 8½
3050	10	Birkenhead, Ordinary	all	6¼ 6¾
3000	10	Ditto, 6 per cent. Preference	all	10¾ 11¼
9290	10	Bristol [L]	7½	7¾ 8¼
3200	10	Chester [L]	all	10 10½
24000	10	Dublin	all	12 12½
14690	10	Edinburgh Street Tramways	all	14¼ 14¾
35000	10	Glasgow Tramway & Omni. [L].	9	10¼ 10¾
10000	10	Hughes Loco. and Tram. works	all	8 9
7500	10	Hull Street Tramways	all	11¼ 12½
7500	10	Imperial [L]	all	8 9
34000	10	Liverpool Unit. Tram & Om. [L]	all	10½ 11
25000	10	London [L]	all	11¾ 12
15000	10	London Street Tramways	all	10½ 11
60000	10	North Metropolitan	all	14¾ 15¼
8000	10	Nottingham and District [L]	all	10 10½
15947	10	Provincial [L]	all	10½ 11
6000	10	Sheffield	all	8½ 9½
5000	10	Southampton	all	10¼ 10¾
6000	10	Sunderland [L]	all	8 9
10000	10	Swansea	all	5½ 6½
12000	10	Tramways of France [L]	all	9½ 10
16500	10	Tramways of Germany [L]	all	10 10½
20000	5	Tramways and Gen. Works [L].	all	6¾ 7¼
40000	5	Tramways Union [L]	all	6¼ 6¾
25000	10	Vale of Clyde	6	4⅜ 4⅞
7200	10	Wolverhampton [L]	all	10 10½

MISCELLANEOUS

Shares	Company	Paid	Price
Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0	78 80
25	Australian Agricultural	21 10	83 85
10	Brighton Aquarium [L]	10 0	7¼ 7¾
Stk.	Cent. of New Jersey Con. Mort.	100 0	105 107
25	City of London Real Property	12 0	2 2½ pm
5	Diamond Rock Boring	4 10	3¼ 3¾ dis
16	Fore Street Warehouse [L]	14 0	6 7 pm
15	Foster, Porter, and Co. [L]	10 10	17½ 18½
17	Hudson's Bay Company	17 0	15⅛ 15⅜
Stk.	Illinois & St. Louis Brge, 1st Mt.	100 0	116 118
Stk.	Ditto 2nd Mort., 7 per cent.	100 0	83 88
7½	Imperial Credit [L]	7 10	7⅝ 7⅞
—	Ditto, Surplus Certificate	—	6⅞ 7⅛
Stk.	Lehigh Val. Con. Mort., A, 7p.c.	100 0	105 106
10	Milner's Safe [L]	10 0	8 9
25	National Discount [L]	5 0	10½ 11
Stk.	N. Cent. Rail Mort., 6 per cent.	10 0	100½ 101½
10	Pawson and Co. [L]	8 0	½ dis par
50	Peninsular and Oriental Steam	50 0	53 55 xd
Stk.	Pennsyl. Gen. Mort., 6 p. c. 1880	100 0	116½ 117½
Stk.	Do. Con. Sink. Fund, 6 p. c. 1905	100 0	111 112
Stk.	Scottish Australian Invt. Co.	100 0	175 185
Stk.	Ditto 6 per cent. pref.	100 0	128 133
Stk.	Ditto New Ordinary	10 0	16 18
12	Telegraph Const. & Maint. [L]	12 0	34 36
5	Ditto, 2nd Bonus, 3 per cent.	5 0	2¾ 3
10	Tharsis Sulphur & Copper Co.	10 0	30 31
Stk.	Union Pacific Land Gt., 1st Mt.	100 0	114 116
Stk.	Union Pacific Ry., 1st Mort.	100 0	111½ 112½

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